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1976

MEDLARS TRAINING PROGRAM

Indexing Training Syllabus

NATIONAL LIBRARY OF MEDICINE
Bibliographic Services Division
Index Section

MEDLARS TRAINING PROGRAM
INDEXING TRAINING SYLLABUS

by
Thelma Charen

NATIONAL LIBRARY OF MEDICINE
Index Section BSD
1976

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TABLE OF CONTENTS

	Page
Preface	i
MEDLARS Training Schedules	ii
Introduction	1
Chronology: Supplementary Data	2
Derivative Publications of MEDLARS	4
MEDLARS Limitations	5
BSD Organization	6
List of Journals Indexed (LJI)	9
Depth and Non-Depth Rationale	13
IM and NIM Rationale	14
Exercises on INDEX MEDICUS	16
Authority Lists	19
MEDICAL SUBJECT HEADINGS (MeSH)	20
Exercises	27
Data Form	32
Exercises	42
Coordination	44
Exercises	47
Qualifiers (Subheadings)	49
Exercises	62
Tools and References	69
Indexing Manual	72
Analysis of MeSH Trees	73
Indexing Demonstration	105
Indexing Philosophy	107
Practice Titles	108

ME/DJR F05471 890405

PREFACE

This syllabus is meant to supplement
the Indexing Training Lectures of the
MEDLARS Analyst Training Program.

It is not designed as a substitute
for either the lectures or for the
Indexing Manual.

This syllabus is intended primarily
as a workbook for the use of MEDLARS
Analysts training in the Index Section
at the National Library of Medicine.

M E D L A R S

Indexing Training Schedule

Training lectures will be given each day in the Bibliographic Services Division Conference Room. They last from 8:30 am to 12:30 pm.

After lunch each day, the trainees will devote the afternoons from 1 pm to 4 pm to preparing the day's exercise for correction in class at 4 pm.

All practice indexing of journals during the ensuing training weeks will be revised by a MEDLARS Indexing Training Reviser and will enter the MEDLARS system as productive indexing for INDEX MEDICUS and for Search retrieval.

Until the trainee leaves the premises, he will be under the guidance of a Training Reviser who continues indexing training by personal instruction and daily revision of the articles he indexes.

During their stay in Index Section, the trainees will continue to meet each Friday morning at 9 am for additional class instruction on problem areas of indexing.

MEDLARS Training Lectures

Index Section

Lecture I	INDEX MEDICUS history Indexing workflow List of Journals Indexed Depth and Non-Depth rationale IM and NIM rationale
Lecture II	Medical Subject Headings (MeSH)
Lecture III	Data Form - Check Tags
Lecture IV	Subheadings
Lecture V	Subheadings
Lecture VI	References and tools Indexing Manual
Lecture VII	Indexing policy by category
Lecture VIII	Indexing policy by category
Lecture IX	Indexing policy by category
Lecture X	Demonstration of the indexing of an article
Lecture XI	Data Form - Descriptive
Lecture XII	Indexing philosophy

INTRODUCTION

- I. MEDLARS: definition, purpose and scope
- II. Brief history of the National Library of Medicine
- III. Definition and scope of INDEX MEDICUS and CUMULATED INDEX MEDICUS; definition and scope of MEDLINE
- IV. Brief history of their origins
 - △ Index-Catalogue
 - △ Current List of Medical Literature (CLML)
 - △ AMA's Quarterly Cumulative Index Medicus (QCIM)
 - △ Index Medicus (IM)
 - △ Cumulated Index Medicus (CIM)
- V. Derivative publications of MEDLARS
- VI. Indexing: definition
- VII. Types of indexing
 - △ by professional indexers
 - △ by publishers
 - △ by authors
- VIII. Limitations of MEDLARS (See page 5)

CHRONOLOGY - Supplementary Data

NAMES

1865 Army Medical Library
 1952 Armed Forces Medical Library
 1956 National Library of Medicine

INDEX-CATALOGUE

1880-1895	1st series	16 vol	Monographs & periodicals
1896-1916	2d series	21 vol	Monographs & periodicals
1918-1932	3d series	10 vol	Monographs & periodicals
1936-1948	4th series (M-Mez)	11 vol	Monographs & periodicals
1955	(Mh-Mn)		
1959	5th series	3 vol	Monographs only: author & title
1961			Monographs only: subjects A-M, N-Z

VOCABULARY

1880-1955	Index-Catalogue	Historical usage & current limits
1941-1949	Current List	Index-Catalogue usage & ad lib
1950-1953	Current List	AMA's QCIM (Quarterly Cumulative Index Medicus) Subject Headings
1954-1959	Current List	NLM's SHAL (Subject Heading Authority List)
1960-1962	Index Medicus	MeSH, 1st ed.
1963	Index Medicus	MeSH, 2d ed.
1964	Index Medicus	MeSH, 3d ed.
1965- present	Index Medicus	MeSH, published annually

SUBHEADINGS

1880-1961	Index-Catalogue	Subheadings: standard & ad lib
1950-1959	Current List	Subheadings: standard
1960-1962	Index Medicus	Subheadings: standard
1963-1965	MEDLARS	No subheadings
1966-	MEDLARS	Subheadings: standard

ON-LINE SYSTEMS

1963-1967	MEDLARS I	MEDLARS
1970		AIM-TWX (= ELHILL 1)
1971		MEDLINE (= ELHILL 2)
1971	MEDLARS II	MEDLINE
1972	(= ELHILL 3)	SDILINE
1973 Sep		CATLINE
1973 Sep		SERLINE
1974 Apr		TOXLINE
1974 May		CHEMLINE
1974 Sep		CANCERLINE
		BACKFILE 1966
		BACKFILE 1969
		BACKFILE 1972

DERIVATIVE PUBLICATIONS OF MEDLARS

At the present time there are 28 derivative publications produced through MEDLARS. A list of them is published on the inside of the back cover of each monthly issue of INDEX MEDICUS.

The American Dental Association, publisher of the INDEX TO DENTAL LITERATURE, the first recurring bibliography under MEDLARS, has one of its employees on the Index Section staff, responsible for the indexing of the dental journals in the LIST OF JOURNALS INDEXED IN INDEX MEDICUS and the revising of dental journals indexed by the ADA in Chicago. All articles containing terms in the field of dentistry and oral medicine indexed in non-dental journals are also reviewed by the ADA indexer.

The American Journal of Nursing Company, publisher of the INTERNATIONAL NURSING INDEX, the second recurring bibliography under MEDLARS, has one of its employees on the Index Section staff, responsible for the indexing of the nursing journals in the LJI and the revising of nursing journals indexed in New York at the American Journal of Nursing Company. All articles containing terms in the field of nursing and public health indexed in non-nursing journals are also reviewed by the AJN Co. indexer.

Examine the complete list of recurring bibliographies presented on the inside back cover of any issue of INDEX MEDICUS. Note the variety of specializations. A special interest group discusses with the Library his needs and the subject headings relative to his field of interest constitute the basis of his bibliography. Articles indexed during the regular course of preparation for each INDEX MEDICUS, bearing the subject terms of the designated special area, appear in generally the same form of citation familiar to INDEX MEDICUS users and comprise the special bibliography at the stated intervals.

MEDLARS and MEDLINE Limitations
in
Literature Analysis

The following concepts are at present not able to be indexed or retrieved with precision in MEDLARS or MEDLINE:

1. any degree of quality or quantity
2. relationships not expressed by co-ordinations of two or more main headings, by a main heading with a subheading, by a main heading with a check tag
3. degrees of adverse effects (except poisoning)
4. degrees of beneficial effects
5. more or less
6. before or after or how far along (except as TIME FACTORS)
7. early or late (except as TIME FACTORS)
8. often or seldom (except as TIME FACTORS)
9. primary or secondary
10. major or minor
11. above or below, right or left
12. surgical approach (except as METHODS or /methods)
13. partial or total (except as METHODS or /method's)
14. amount of therapy

BIBLIOGRAPHIC SERVICES DIVISION

Organization

The class will have been taken on a tour of the National Library of Medicine. This will put in perspective the Bibliographic Services Division as related to the other divisions of NLM.

- I. Bibliographic Services Division (BSD) personnel
- II. Index Section personnel
- III. Index Section Work Flow

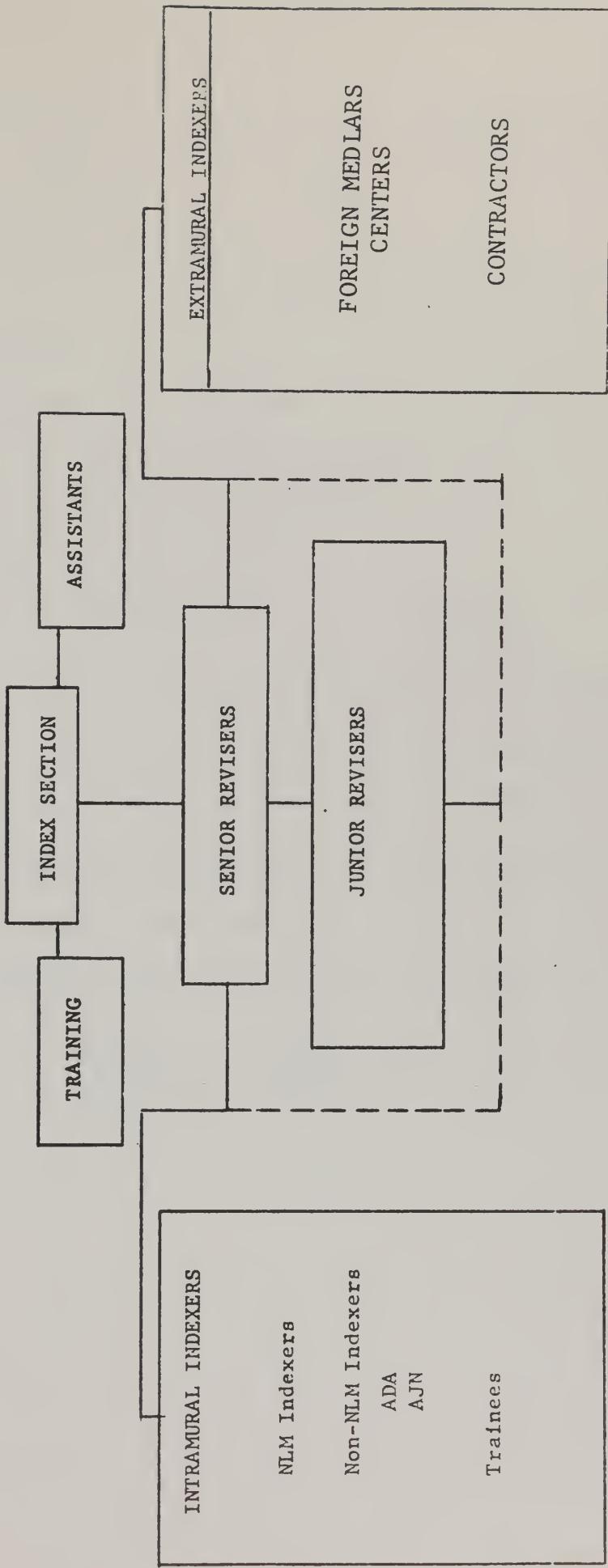
BIBLIOGRAPHIC SERVICES DIVISION

Chief: Mr. William Caldwell
Mrs. Patricia Flodin - Secretary
Deputy:
Head, Index Section: Mr. Stanley Jablonski
Head, MEDLARS Management: Mrs. Grace J. McCarn
Head, Mid-Atlantic Regional Medical Library
Search Section: Miss Charlotte Kenton

INDEX SECTION

Head: Mr. Stanley Jablonski
Assistant: Mr. Lloyd Wommack

Training Supervisor: Mrs. Thelma Charen
Revisers: see routing slip
Indexers: see routing slip
Assistants: see routing slip



W O R K F L O W

LIST OF JOURNALS INDEXED IN INDEX MEDICUS
(LJI)

- I. Purpose
- II. Coverage under MEDLARS
 - o INDEX MEDICUS journals
 - o special list journals
- III. Parts: arrangement by
 - o abbreviation o subject
 - o full title o geography
- IV. Consultants on Literature Selection for MEDLARS:
function and activities (See page 10)
- V. Criteria for inclusion (See page 11)
- VI. Formulation of journal title abbreviation
- VII. Handstamp (See page 12)
- VIII. Indexing instructions (See also page 13)
 - o Priority 1 - Depth Rush
 - o Priority 2 - Depth
 - o Priority 3 - Non-Depth
 - o Selective
- IX. Implications for MEDLINE retrieval

CONSULTANTS ON LITERATURE SELECTION FOR MEDLARS

Executive Secretary:
Clifford A. Bachrach, M.D.
Head, MeSH
National Library of Medicine

Mr. William K. Beatty, Librarian
Archibald Church Medical Library
303 East Chicago Avenue
Chicago, Illinois 60611

Edward J. Huth, M.D.
Annals of Internal Medicine
4200 Pine Street
Philadelphia, Pennsylvania 19104

Mr. Harold J. Bloomquist, Librarian
Francis A. Countway Library
of Medicine
10 Shattuck Street
Boston, Massachusetts 02115

Saul Jarcho, M.D., Editor
Bulletin of the New York Academy
of Medicine
35 E. 85th Street
New York, New York 10012

Hugh H. Hussey, M.D., Editor
Journal of the American Medical
Association
535 North Dearborn Street
Chicago, Illinois 60610

Norman P. Shumway, M.D.
Professor Emeritus of Medicine
Case-Western Reserve University
Cleveland, Ohio 44106
Former Head, MeSH

Kenneth S. Warren, M.D.
Department of Community Health
School of Medicine
Case-Western Reserve University
Cleveland, Ohio 44106

List of Journals Indexed in
Index Medicus

INTRODUCTION

To aid in the selection of journals for *Index Medicus*, the National Library of Medicine established an advisory group in September 1964 known as the Ad Hoc Panel on Selection of Journals for *Index Medicus*. Using a number of criteria, and assisted by advice solicited from knowledgeable physicians, scientists, and medical librarians outside the library, this Panel has, since its initial meeting, recommended the deletion of 308 titles and the addition of 349 new titles. Among the criteria used for selection of titles were:

- (1) Sponsorship of the journal by a professional organization of recognized status in a given discipline or subject area.
- (2) Sponsorship by a national academy or a national institute.
- (3) Existence of an active editorial board consisting of knowledgeable and critical referees with high professional standing.
- (4) Regular contributions to a journal by leaders in the subjects to which the journal is addressed.
- (5) Strict adherence to an established format in presentation of methodology, tables, graphs, references, and other data.
- (6) Publication policy that prohibits promotional, parochial, or secular approaches in the journal.

REPRINTED FROM THE MONTHLY
INDEX MEDICUS :

Those familiar with *List of Journals Indexed* will notice the absence of the "r" designation, which was used to indicate titles not regularly indexed but scanned exclusively for review articles. In April 1965 the Library, on advice from the Panel, discontinued this practice; review articles are now selected only from titles regularly indexed in *Index Medicus*.

In keeping with a statement made in the January 1965 *Index Medicus* the Library no longer includes in *List of Journals Indexed* the titles of journals not actually indexed. This is another action of the Library which reflects a recommendation of the Panel on Selection.

The Library recognizes that choices, even with the best advice available, will not satisfy those journal editors and publishers whose titles are not included. Although it is the desire of the Library to index all of these journals, limitations of personnel and physical resources make it impossible at this time.

National Library of Medicine
Bethesda, Maryland 20014
January 1966

JOURNALS INDEXED

A complete key to journal title abbreviations used in *Index Medicus* is included in the January issue and is available separately from the Government Printing Office (see National Library of Medicine Publications, inside front cover). Two complete listings are provided; an alphabetical listing by journal title abbreviation followed by the full title of the journal, and an alphabetical listing by the full title of the journal followed by the journal title abbreviation. (The separately issued publication also includes subject and geographic listings.)

Index Medicus coverage is limited to periodic literature. Proceedings of congresses, symposia, and similar materials are not indexed unless published in periodicals.

In the selection of journals for indexing, the National Library of Medicine is advised by a group of distinguished physicians, medical editors, and medical librarians. The Library indexes the periodical literature that has been judged most useful to *Index Medicus* users. It is not possible to include every journal that might contain useful articles.

An effort is made to maintain a reasonable balance of subject matter. The inclusion of a journal should not be construed as indicating that it is considered superior to one that is not indexed.

STAMPS



Regular Property Stamp

NATIONAL LIBRARY OF MEDICINE INDEX COPY	
RECD. DEC 1 1975	
INDEX	
INPUT	

CR	I	AUST	SL	C
<input type="checkbox"/> H ^Q	<input type="checkbox"/> C:	<input type="checkbox"/> ARTS		
<input type="checkbox"/> ISSN				
<input type="checkbox"/> PUBL DATE				
<input type="checkbox"/> VOL				
<input type="checkbox"/> NO	PT	SUPPL		

INDEX MEDICUS
Property
Stamp

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<input type="checkbox"/> ISSN				
<input type="checkbox"/> PUBL DATE				
AWΦ				
SEP 75				
VOL 93				
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3				

INDEX MEDICUS
Handstamp

DEPTH AND NON-DEPTH RATIONALE

- I. Degree of depth as determined by the Head, Index Section
- II. General characteristics of Depth and Non-Depth journals
- III. Correlation of depth/non-depth indexing with journal priorities
- IV. Definition of Depth indexing as an unlimited number of headings to describe the content of the article fully and adequately
- V. Definition of Non-Depth indexing as the number of headings necessary to describe fully and adequately THE POINT OF THE ARTICLE
- VI. Expected number of headings for Depth; for Non-Depth
- VII. Examples of both from journals actually indexed to the correct degree
- VIII. Relation of Depth and Non-Depth to the headings printed in INDEX MEDICUS and to those stored in the computer

See the INDEXING MANUAL, Section 3: DEPTH INDEXING

NOTE: Priority 1 and 2 journals must be indexed completely to cover major points and minor points discussed (i.e., discussed, not merely mentioned). Priority 3 must be indexed to cover basically only the major points of the article.

Indexers are free to judge each article on its own merits and to index the rare article from a Priority 1 or 2 journal as non-depth, and the less rare article from a Priority 3 journal in great depth.

All REVIEW articles are indexed in depth regardless of the priority number assigned.

COMPARISON OF PRIORITY 1, 2 AND 3 JOURNALS

Priority	Urgency	Type of Journal	Coverage of Article	Degree of Depth of Indexing	Number of Headings	IM & NIM
1	Rush	Research Clinical Spec	Major points Minor points	Very deep	15-20	Several IM Many NIM
2		Research Clinical Spec	Major points Minor points	Very deep	15-20	Several IM Many NIM
3		Clinical Paramed	Major points	Not as deep	6-8	Several IM Few NIM

The number of headings in the next-to-the-last column is based on an average number of terms in the MEDLARS data base

IM AND NIM RATIONALE

I. Synonyms

IM: INDEX MEDICUS
Print

NIM: NON-INDEX MEDICUS
Store

II. Definitions

IM: a term destined to be printed
in the published INDEX MEDICUS

NIM: a term destined for computer
storage only

III. Availability: both IM and NIM entries are stored in the computer and are available for machine retrieval

IV. Application

IM: represents the basic points of
the article indexed

NIM: represents subjects discussed in
the article but not necessarily
the point of the article

represents aspects of a subject
serving as search parameters

V. Philosophical orientation in the indexing of medical literature

Primary orientation:

- | | |
|-----------|------------------------|
| ▲ organ | ▲ treatment |
| ▲ disease | ▲ technic of diagnosis |
| ▲ cause | or treatment |

Secondary orientation: any premise leading to the understanding of disease and how to prevent or treat it

- ▲ organ function
- ▲ physiological process
- ▲ metabolism
- ▲ organisms
- ▲ chemicals
- ▲ drugs
- ▲ paramedical facets

VI. Parameters usually IM

- ▲ the point of the article
- ▲ organs
- ▲ diseases
- ▲ organisms, especially veterinary animals
- ▲ chemicals
- ▲ therapies

VII. Parameters usually NIM

- ▲ data not the point of the article
- ▲ technics
- ▲ age of subjects
- ▲ sex of subjects
- ▲ animals studied experimentally

See Indexing Manual, Section 4: INDEX MEDICUS HEADINGS AND NON-INDEX MEDICUS HEADINGS; Section 13: CHOICE OF HEADINGS IN INDEXING; et passim

EXERCISE I

INDEX MEDICUS

Current
Monthly
Copy

Please remove from the Index Section's reference shelves a copy of the INDEX MEDICUS monthly issues. Examine a recent issue, noting the following items.

Subject Section

1. Form of entry
2. Alphabetization of entries
3. Typography
4. English titles vs foreign titles
5. Role of the journal title abbreviation
6. Language symbol
7. Position of author
8. Number of authors
9. Accents and diacriticals

Name Section

1. Name as author
2. Name as biographee
3. Number of authors
4. Treatment of co-authors
5. Vernacular titles
6. Accents and diacriticals
7. Anonymous works

Other Sections

1. Inside cover
2. Introduction
3. LJI supplement
4. MEDLARS Literature Searches
5. Bibliography of Medical Reviews
6. Other

EXERCISE II
INDEX MEDICUS

1. What are the major sections of INDEX MEDICUS? Note complementary material.
2. How many authors are given in citations in the subject section?
3. How many authors are given in citations in the name section?
4. Do accent marks appear in the subject section?
5. Do translations appear in the name section?
6. Are there any cross-references in the subject section?
7. Are there any cross-references in the name section?
8. How are the citations arranged in the subject section under a given subject?
9. What is the fewest number of citations for an article by A. Fairchild on Freud's contribution to the discovery of cocaine?
10. Can anonymous articles written in English be found in INDEX MEDICUS? Where?

EXERCISE III
INDEX MEDICUS

Using an issue of INDEX MEDICUS, under what main heading or headings did you find an article on the subjects below? Use only a monthly issue of INDEX MEDICUS or the CUMULATED INDEX MEDICUS: do not use a MeSH.

1. The release of histamine
2. The effect of thumbsucking on the gums
3. The surgical treatment of hip dislocation
4. Fats in the brain
5. Infected burns
6. Chocolate in relation to coronary disease
7. Bacterial infections in children
8. The chemistry of *Bacillus megatherium*
9. Brain pathology in kuru
10. Blood coagulation in pregnant women

AUTHORITY LISTS

- I. Definition and purpose of an authority list
- II. Synonyms: thesaurus, controlled vocabulary, standardized vocabulary, MeSH
- III. History of authority lists at the National Library of Medicine (see page 2)
 - ▲ QCIM
 - ▲ SHAL
 - ▲ MeSH 1960
 - ▲ MeSH 1961-present

Because of the importance of MEDICAL SUBJECT HEADINGS (MeSH), an entire lecture will be devoted to its analysis in detail.

IV. Common features:

- ▲ Typography
- ▲ Main headings
- ▲ Cross-References
- ▲ Subheadings

MEDICAL SUBJECT HEADINGS
(MeSH)

- I.. History (see Chronology, page 2)
- II. Definition and purpose
- III. Creation and content
- IV. Sections
 - o introductory matter
 - o alphabetical list
 - o trees
- V. Public MeSH and Indexers/Searchers MeSH (see page 21)
- VI. Alphabetical List
 - o typography
 - o tree number: definition and use
 - o classes of headings: main headings & cross-references
 - o official MeSH terminology (see page 22)
 - o cross-references (see pages 23 & 24)
 - o annotations
 - o relation to trees
 - o how to use
- VII. Trees
 - o organization: 15 categories
 - o margin & indentation relationships
 - o relation to alphabetized list
 - o names & content of categories
 - o subcategories
- VIII. Scope and coverage (see page 25)
- IX. Related MeSH products

LANGERHANS CELLS
A11.436.506

LANGUAGE
F1.145.209.399

L1.143.506

LANGUAGE DEVELOPMENT

F1.227.507

see related

LEARNING

SPEECH

XU CHILD LANGUAGE

XR PSYCHOLINGUISTICS

LANGUAGE DISORDERS

F3.126.557

XR VERBAL BEHAVIOR

XR VERBAL LEARNING

LANOLIN

D10.518.945.507

D26.368.405.424

D26.368.405.424

LANOSTEROL

D4.808.247.222.222.347.557

D10.516.851.590

X KRYPTOSTEROL

D4.808.247.808.607

LANTHANUM

D1.268.473

D1.552.550.474

LANUGO see under HAIR

LAPAROSCOPY

E1.418.561

LAPAROTOMY

E4.406

LARGACTIL see CHLORPROMAZINE

LAROXYL see AMITRIPTYLINE

LARVA

B1.583.382

LARVA MIGRANS

C3.335.508.455.507

C17.860.424

X CREEPING ERUPTION

C3.858.424

COMPARISON of the PUBLIC
MeSH & the INDEXERS' MeSH

Note the comparative format
of Minor Descriptors (see
unders) & the absence of
(NON MESH) terms, of geo-
graphicals, of annotations
& of cross-references to
Minor Descriptors (↗)

LANGERHANS CELLS

A11.436.506

73(69); A 11 qualif; cutaneous cells: do not confuse with ISLANDS
OF LANGERHANS (pancreas)

LANGUAGE

F1.145.209.399

L1.143.506

no qualif; sign language = SIGN LANGUAGE

LANGUAGE ARTS (NON MESH)

L1.143.506.423

LANGUAGE DEVELOPMENT

F1.227.507

68; no qualif

see related

LEARNING

SPEECH

XU CHILD LANGUAGE

XR PSYCHOLINGUISTICS

LANGUAGE DISORDERS

F3.126.557

67; do not use /drug eff /physiol /rad eff

XR VERBAL BEHAVIOR

XR VERBAL LEARNING

LANKAMYCINS see KUJIMYCINS

D20.85.445

LANOLIN

D10.518.945.507

D26.368.405.424

D26.898.523.424

D25-26 qualif

LANOSTEROL

D4.808.247.222.222.347.557 D4.808.247.808.607

D10.516.851.590

74(72); /blosyn permitted; do not use /defic /physiol

X KRYPTOSTEROL

LANTHANIDES see METALS, RARE EARTH

D1.552.550

LANTHANUM

D1.268.473

D1.552.550.474

do not use /analogs /blosyn /defic /physiol; indexing isotopes: Manual
Fig. 18.23.5

LANUGO

A1.835.288.632

do not use /blood supply /inj /innerv /physiopathol /secret /surg
see under HAIR

LAOS

Z1.252.145.435

LAPAROSCOPY

E1.418.561

73(71); do not use /util except by MeSH definition

LAPAROTOMY

E4.406

avoid: used too loosely in the literature: Manual 22.9

LARGACTIL see CHLORPROMAZINE

D3.494.741.198

D15.236.872.331.628.208

LAROXYL see AMITRIPTYLINE

D15.236.122.140.108

LARVA

B1.583.382

74(70); NIM; only for metamorphosing animals (so correct for
tadpoles); do not use /embryol with reference to larvae

LARVA MIGRANS

C3.335.508.455.507

C3.858.424

C17.860.424

note category: a disease

X CREEPING ERUPTION

MeSH TERMINOLOGY

MAJOR DESCRIPTORS

Main Headings
Geographic Headings
Check Tags
Citation Types
Non-MeSH terms

MAJOR DESCRIPTOR is the name given to a MeSH entry under which citations are stored in the computer and which do not require mapping. Since this is true of five different types of descriptor as noted above, indexers and revisers avoid the term "major descriptor" as too general and prefer to call headings by the specific names above.

MINOR DESCRIPTORS

see under references

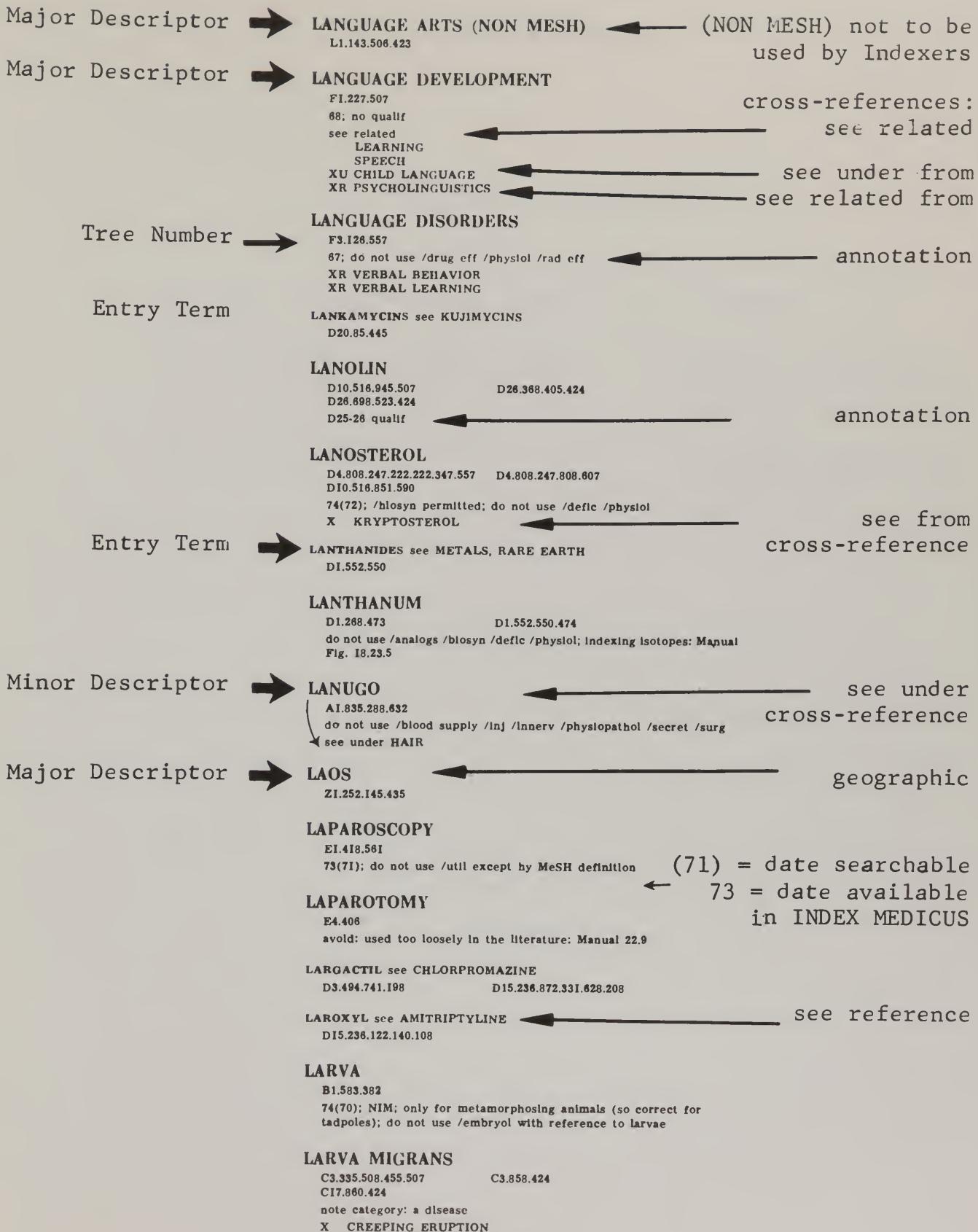
ENTRY TERMS

see references

ENTRY VERSIONS

shortened forms as noted in the Annotated MeSH thus, DF:

Regardless of the name you refer to it as, any or all of the above concepts may be typed on a Data Form by an indexer in the course of indexing. The computer will handle all required mapping internally. You will usually type the heading as it appears at the margin or as it appears in a legal shortened form.



CROSS REFERENCES

Directional References

1. See (called Entry Term) a synonym
2. See under (called Minor Descriptor) a specific concept under or among a more inclusive concept
3. See related a helpful suggestion to be accepted or bypassed

Corresponding Backwards References

- 1'. X see from
- 2'. XU see under from
- 3'. XR see related from

MEDICAL SUBJECT HEADINGS (MeSH): General Characteristics

Coverage

1. Organs, tissues, cells, regions
2. Diseases
3. Drugs, chemicals, endogenous and other substances
4. Living organisms: microorganisms, higher animals, plants
5. Procedures: diagnostic, therapeutic, surgical, anesthetic, analytic
6. Physiological processes
7. -OLOGIES and other fields and disciplines
8. Miscellaneous medical and paramedical concepts
9. Geography

Form

1. Anglo-Saxon for organs; Latin or Greek in the absence of the Anglo-Saxon and for adjectival forms (BRAIN vs CEREBRAL; KIDNEY vs RENAL or NEPHR-)
2. Singular or plural form
3. Alphabetization: seek above or below the needed term
4. Inversions to bring like concepts together
5. Interchangeable compounds as entries (autoradiography vs radioautography; photomicrography vs microphotography)
6. Plural vs singular drugs
7. Compound drug names
8. Pre-coordinated headings
9. Specialties vs organs or diseases
10. Hyphenations for syndromes
11. Hyphenations for standard orthography (self help vs self-help devices)
12. Apostrophe s or s apostrophe for eponyms; for syndromes
13. Accents: in headings and in translations

MeSH: Inconsistencies of Form

Here are some samples of inconsistency in the form of various MeSH headings. There are several explanations for these inconsistencies. They are shown here to alert the Indexer to their existence.

Words in -ologic or -ological:

CALCIFICATION, PHYSIOLOGIC
OSSIFICATION, PHYSIOLOGIC
TECHNOLOGY, RADIOLOGIC
ADJUVANTS, IMMUNOLOGIC
NEUROLOGIC EXAMINATIONS
NEUROLOGIC MANIFESTATIONS
REFRACTORY PERIOD, PSYCHOLOGIC

ADAPTATION, PHYSIOLOGICAL
ADAPTATION, PSYCHOLOGICAL
BACTERIOLOGICAL TECHNICS
HISTOLOGICAL TECHNICS
PSYCHOLOGICAL WARFARE
PSYCHOLOGICAL TESTS

Words in -ceutical or -ceutic:

ETHICS, PHARMACEUTICAL
CHEMISTRY, PHARMACEUTICAL

DICTIONARIES, PHARMACEUTIC
PHARMACEUTIC AIDS

Words for traumatic and post-traumatic:

PSYCHOSES, TRAUMATIC
EPILEPSY, TRAUMATIC

NEUROSES, POST-TRAUMATIC

Words for disease or diseases:

COMMUNICABLE DISEASES
HEART DISEASES
AUTOIMMUNE DISEASES

CORONARY DISEASE
CHRONIC DISEASE
IATROGENIC DISEASE

-in childhood and childhood:

TUBERCULOSIS IN CHILDHOOD

SCHIZOPHRENIA, CHILDHOOD

Words using noun form or adjective form:

SKIN MANIFESTATIONS
EYE MANIFESTATIONS

ORAL MANIFESTATIONS
NEUROLOGIC MANIFESTATIONS

Inversions and non-inversions:

HEMORRHAGE, GASTROINTESTINAL
HEMORRHAGE, ORAL

CEREBRAL HEMORRHAGE
RETINAL HEMORRHAGE
UTERINE HEMORRHAGE

MeSH

EXERCISE I

In Non-Depth Indexing we are frequently called upon to use a general term instead of three or four specifics which would be required for Depth Indexing.

Pretend that you need the following groups of concepts for Non-Depth Indexing. Using the Tree Structures , what single main heading would you use to cover the groups typed below?

1. Papova virus, Yaba virus and myxoma virus
2. Myotonia, myoclonus and amyotonia
3. Raticides, insecticides and weed-killers
4. Pilocarpine, acetylcholine and neostigmine
5. The thymus and lymph nodes
6. The eyes, eyebrows and eyelids
7. Basophils, lymphocytes and erythrocytes
8. Anthracosilicosis, silicosis and silico-tuberculosis
9. Rice, puffed rice, wheat, puffed wheat and cornflakes
10. Nerve block and spinal anesthesia

MeSH

EXERCISE II

What main heading or main headings in MeSH do you think should be used to cover articles on the following subjects? The word or phrase below was that used by the author and represents terms or concepts required for indexing.

1. Radiorenography
2. Subvalvular stenosis
3. Lichen
4. Dishydrosis
5. Disabled persons
6. Spreading cortical depression
7. Mass cancer x-ray
8. Microfilaria diurna infection
9. Prefrontal lobotomy
10. Pulmonary lobectomy
11. Ventricular neoplasms
12. Bacterial survival
13. Visual pigments
14. Reinforcement
15. Medical jurisprudence
16. Higher nervous activity
17. Dog bites
18. Bicycles
19. Lethal midline granuloma
20. Bacterial culture
21. Leg fractures
22. Sodium-free diet
23. Cooked foods
24. Tomatoes
25. Cerebral edema
26. Lipid mobilization
27. Chocolate candy
28. Double vision
29. Posterior cranial fossa
30. Sympathetic nerves
31. Urinals
32. Hepatic amebiasis
33. As if personality
34. Hepatic cirrhosis
35. Work of breathing

MeSH

EXERCISE III

The following exercise has two purposes: to give you more experience in the use of the Alphabetical MeSH and to show you how a searcher actually goes about retrieving articles on the very simple search requests below.

1. Pseudomonads in water
2. Radiostrontium in fallout
3. Rectal temperature
4. Salivary sugars
5. Pathological anatomy as a specialty
6. Injuries from automobile accidents
7. Fractures in boxing and baseball
8. Streptococcal and staphylococcal meningitis
9. Postappendectomy obstruction of the duodenum
10. Mitral stenosis

ANNOTATED MeSH

Exercise

1. What do the following abbreviations mean?

GEN	65	SPEC: SPEC qualif
IM	70(65)	A 11 qualif
NIM coord	no qualif	TN

2. When did "incomplete abortion" come into the system?
3. When did "habitual abortion" come into the system?
4. How do I index "blood physiology"?
5. What is a synonym for "blood platelets"?
6. Will this article appear in one or two places in INDEX MEDICUS: "The BIOLOGICAL TRANSPORT of BIOPTERIN"?
7. May I index an article on ACADEMIES AND INSTITUTES/manpower?
8. What subheadings may I use for "blood donors"?
9. What are two specific features of weather in MeSH?
10. May I index SNOW/adverse effects for frostbite from walking in the snow?
11. When did WATER MOVEMENTS come into the system?
12. Where do I index "chemical water pollution"?
13. May a cataloger catalog a book entitled "Chemical Water Pollution in the United States" under WATER POLLUTION, CHEMICAL /UNITED STATES?
14. Where do I index "solid waste disposal"?
15. Missed abortion is permitted with animals. Is eugenic abortion? Is legal abortion?

16. An article on calcium absorption would be indexed under CALCIUM and ABSORPTION. Is CALCIUM printed in INDEX MEDICUS? Is ABSORPTION printed in INDEX MEDICUS?
17. What are some synonyms for needle biopsy?
18. What are some concepts included in BIOPHARMACEUTICS?
19. Where do I index "water-electrolyte imbalance"?
20. Is there a Technical Note on absenteeism?
21. Which is better on a data form and why?
 - a. AC-GLOBULIN or FACTOR V
 - b. ABSCESS, CEREBRAL or BRAIN ABSCESS
 - c. ABSCISSIC ACID I or ABSCISSINS
 - d. BLOOD PLASMA VOLUME or PLASMA VOLUME
 - e. BIOMATERIALS or BIOCOMPATIBLE MATERIALS
 - f. WATTLES or COMBS AND WATTLES
22. Which is more likely to be printed in INDEX MEDICUS: BLOOD CIRCULATION or BLOOD CIRCULATION TIME?
23. What is the difference between a term without a statement concerning IM and a term with a statement about IM?
24. In how many Trees is BLOOD? Why?
25. What is the Tree number for "abortion seekers"? Why is it assigned here? Why not another Tree instead of or in addition to?
26. Why is BIOMETRY wrong for articles on a comparison of the size of men's and women's hands?
27. BIOLOGY and BIOPHYSICS are both specialties. Why is not the MeSH annotation the same? Examine all Trees referred to to get the answer.
28. Is WATER/poisoning permitted?
29. How do I index micro-organisms in water?
30. Where do I index "blood picture"?

Braun, A, Weiss B

(13) TITLE (Eng or Transl)

[Brain scintigraphy in the differential diagnosis of intracranial lesions]

(14) TITLE (Vernac or Translit)

(19) A <input type="checkbox"/> HIST ART B <input type="checkbox"/> HIST BIOL C <input type="checkbox"/> BIOG-OBIT D <input type="checkbox"/> SYMPOS E <input type="checkbox"/> PROCEED F <input type="checkbox"/> TECH REPT G <input type="checkbox"/> MONOGR H <input checked="" type="checkbox"/> ENG ABST	(20) A <input type="checkbox"/> PREGN B <input type="checkbox"/> INF NEW (to 1 mo) C <input checked="" type="checkbox"/> INF (1-23 mo) D <input type="checkbox"/> CHILD PRE (2-5) E <input type="checkbox"/> CHILD (6-12) F <input checked="" type="checkbox"/> ADOLESC (13-18) G <input checked="" type="checkbox"/> ADULT-(19-44) H <input checked="" type="checkbox"/> MID AGE (45-64) I <input type="checkbox"/> AGED (65 +)	J <input type="checkbox"/> CATS K <input type="checkbox"/> CATTLE L <input type="checkbox"/> CHICK EMBRYO M <input type="checkbox"/> DOGS N <input type="checkbox"/> FROGS O <input type="checkbox"/> GUINEA PIGS P <input type="checkbox"/> HAMSTERS Q <input type="checkbox"/> MICE R <input type="checkbox"/> MONKEYS S <input type="checkbox"/> RABBITS	T <input type="checkbox"/> RATS U <input type="checkbox"/> ANIMAL V <input checked="" type="checkbox"/> HUMAN W <input checked="" type="checkbox"/> MALE X <input checked="" type="checkbox"/> FEMALE Y <input type="checkbox"/> IN VITRO Z <input type="checkbox"/> CASE REPT a <input type="checkbox"/> CLIN RES b <input checked="" type="checkbox"/> COMP-STUDY	c <input type="checkbox"/> ANCIENT d <input type="checkbox"/> MEDIEVAL e <input type="checkbox"/> MODERN f <input type="checkbox"/> 15th CENT g <input type="checkbox"/> 16th CENT h <input type="checkbox"/> 17th CENT i <input type="checkbox"/> 18th CENT j <input type="checkbox"/> 19th CENT k <input type="checkbox"/> 20th CENT	I <input type="checkbox"/> NIH SUP m <input type="checkbox"/> NON NIH SUP
				(12) AUTHOR <input checked="" type="checkbox"/> AFFIL	(22) AUTHOR <input checked="" type="checkbox"/> ABST 1430

(21)	
1	* RADIOISOTOPE SCANNING
2	
3	* TECHNETIUM
4	
5	BRAIN NEOPLASMS / * diag
6	
7	DIAGNOSIS, DIFFERENTIAL
8	
9	CEREBROVASCULAR DISORDERS / * diag
10	
11	BRAIN NEOPLASMS / radiogr
12	
13	CEREBRAL ANGIOGRAPHY
14	
15	ECHOENCEPHALOGRAPHY
16	
17	MENINGIOMA / diag
18	
19	BRAIN ABSCESS / diag
20	
21	HYDROCEPHALUS / diag
22	
23	ASTROCYTOMA / diag
24	
25	OLIGODENDROMA / diag
26	
27	GLIOMA / diag
28	
29	CEREBRAL VENTRICLE NEOPLASMS / diag
30	
31	
32	
33	
34	
35	

DATA FORM

I. Purpose and disposition

II. Appearance

- o general neatness
- o clarity in typing
- o uniform margins
- o correct spelling
- o pencilled emendations
- o double spacing in translations
- o double spacing of main headings
- o capitalization of MAIN HEADINGS
- o lower case and abbreviations of sub-headings
- o care and clarity of Xing Check Tags

III. Descriptive indexing

- o centering of typing
- o pagination: standard, non-standard, *passim*
- o authorship
- o references for reviews
- o biographical data
- o titles
- o translations: brackets, language symbol
- o vernacular: punctuation, accents
- o marking of titles: half-blocks, subtitles, capitalization, accents, numerals, punctuation
- o supplied titles

IV. Subject indexing

MAIN HEADINGS
subheadings
IM and NIM: definition and purpose
Check Tags: definition and purpose
Abbreviations and shortened forms

V. Check Tags

- o definition & purpose
- o HUMAN
- o ANIMAL
- o sex of human or animal: FEMALE, MALE
- o age of human only
- o PREGNANCY
- o specific animal: pre-printed; supplied
- o Charen's Law of Useful Redundancy: example:
FEMALE + PREGNANCY + LABOR, etc.
- o IN VITRO: MeSH definition & restriction
- o CASE REPORT
- o CLINICAL RESEARCH: MeSH definition & restriction
- o COMPARATIVE STUDY
- o History tags: interrelation of HISTORICAL ARTICLE, HISTORICAL BIOGRAPHY, CURRENT BIOGRAPHY-OBITUARY, Field 15, the sub-heading /history and the date column
- o Field 19 D, 19 E, 19 F, 19 G
- o ENG ABST: when to use, standards, relation to AUTHOR ABSTRACT in Field 22
- o UNITED STATES GOVERNMENT SUPPORT, N.I.H & UNITED STATES GOVERNMENT SUPPORT, NON-N.I.H: abbreviation, purpose & use
- o AUTHOR AFFILIATION: when to use, length, purpose & use
- o principle of Check Tags as NIM vs IM
 - infants & children
 - newborn infants
 - pregnancy
 - experimental animals vs veterinary animals
- o special handling of physicians & famous persons
 - position on Data Form
 - definition of FAMOUS PERSONS
 - required Check Tags

CHECK TAGS

A Check Tag is simply an arbitrary item which must be looked for ROUTINELY in every article. It is a facet of an article which is of potential significance to the most important special-interest groups we serve: the clinicians, the scientists in experimental research, the NLM History of Medicine Division, and the users of drug literature. The Check Tags indicated on the Data Form reflect the present wishes of these groups and could be modified under the supervision of MeSH should more or different ones be found essential to the medical community.

A Data Form bearing the main heading GOUT and the Check Tag CHILD could mean three things:

1. that an article was entitled GOUT IN CHILDREN and concerned this disease in this age group in general as a clinical entity;
2. that an article was entitled GOUT and in reporting his cases, the author listed seven of which one was a child;
3. that an article was entitled GOUT IN A CHILD: AN UNUSUAL CASE.

The coordination of GOUT and CHILD in any of these hypothetical articles will bring forth from the computer on a requested search all three in answer to this question:

"Do you have any article in your system
on gout in which a child figures?"

If we judge the main headings under which an Indexer indexes an article to be the most important aspect of indexing, the second most important is the Check Tag. Its value to retrieval cannot be over-emphasized and an Indexer must learn to seek it out and supply it automatically.

CHECK TAGS: IM vs NIM for Age and Pregnancy Tags

MIDDLE AGE

INFANT, CHILD, ADOLESCENCE, ADULT, AGED

These tags are always checked (i.e., they are NIM) for routine articles on physiological processes, diseases & psychological aspects of any infant, child, etc. That is, an article on cancer in children is indexed NEOPLASMS (IM) + CHILD (NIM, the check tag). Digestion in the elderly is indexed under DIGESTION (IM) + AGED (NIM, the check tag).

The exception is the newborn infant. This is made IM for normal states: digestion in the newborn infant is indexed DIGESTION (IM) + INFANT, NEWBORN (IM). Diseases in newborn infants is indexed under the name of the disease (IM) + INFANT, NEWBORN, DISEASES (IM) + the check tag INFANT, NEWBORN (NIM).

PREGNANCY

Normal pregnancy is always IM; deviations from the normal is usually one of the PREGNANCY COMPLICATIONS headings (IM) + PREGNANCY (NIM, the check tag).

See the next page for examples of indexing and checking tags.



CHECK TAGS

In the examples below only the marking of the tags 20 A-I are illustrated. Let us assume that we have also marked the tags HUMAN for the infants and both HUMAN and FEMALE for pregnancy.

Pancreas anatomy in the infant:

(20)	J <input type="checkbox"/> CATS
A <input type="checkbox"/> PREGN	K <input type="checkbox"/> CATTLE
B <input type="checkbox"/> INF NEW (to 1 mo)	L <input type="checkbox"/> CHICK EMBRYO
C <input checked="" type="checkbox"/> INF (1-23 mo)	M <input type="checkbox"/> DOGS
D <input type="checkbox"/> CHILD PRE (2-5)	N <input type="checkbox"/> FROGS

PANCREAS / * anat

Pancreas anatomy in the newborn infant:

(20)	J <input type="checkbox"/> CATS
A <input type="checkbox"/> PREGN	K <input type="checkbox"/> CATTLE
B <input type="checkbox"/> INF NEW (to 1 mo)	L <input type="checkbox"/> CHICK EMBRYO
C <input type="checkbox"/> INF (1-23 mo)	M <input type="checkbox"/> DOGS
D <input type="checkbox"/> CHILD PRE (2-5)	N <input type="checkbox"/> FROGS

PANCREAS / * anat

* INFANT, NEWBORN

Pancreatitis therapy in infants:

(20)	J <input type="checkbox"/> CATS	T <input type="checkbox"/>
A <input type="checkbox"/> PREGN	K <input type="checkbox"/> CATTLE	U <input type="checkbox"/>
B <input type="checkbox"/> INF NEW (to 1 mo)	L <input type="checkbox"/> CHICK EMBRYO	V <input type="checkbox"/>
C <input checked="" type="checkbox"/> INF (1-23 mo)	M <input type="checkbox"/> DOGS	W <input type="checkbox"/>
D <input type="checkbox"/> CHILD PRE (2-5)	N <input type="checkbox"/> FROGS	X <input type="checkbox"/>
E <input type="checkbox"/> CHILD (6-12)	O <input type="checkbox"/> GUINEA PIGS	Y <input type="checkbox"/>

PANCREATITIS / * ther

Pancreatitis therapy in newborn infants:

(20)	J <input type="checkbox"/> CATS	T <input type="checkbox"/> RATS	c <input type="checkbox"/> ANCI
A <input type="checkbox"/> PREGN	K <input type="checkbox"/> CATTLE	U <input type="checkbox"/> ANIMAL	d <input type="checkbox"/> MED
B <input checked="" type="checkbox"/> INF NEW (to 1 mo)	L <input type="checkbox"/> CHICK EMBRYO	V <input type="checkbox"/> HUMAN	e <input type="checkbox"/> MOD
C <input type="checkbox"/> INF (1-23 mo)	M <input type="checkbox"/> DOGS	W <input type="checkbox"/> MALE	f <input type="checkbox"/> 15th
D <input type="checkbox"/> CHILD PRE (2-5)	N <input type="checkbox"/> FROGS	X <input type="checkbox"/> FEMALE	g <input type="checkbox"/> 16th

PANCREATITIS / * ther

INFANT, NEWBORN, DISEASES / * ther

Pancreas function in pregnancy:

(20)	J <input type="checkbox"/> CATS
A <input type="checkbox"/> PREGN	K <input type="checkbox"/> CATTLE
B <input type="checkbox"/> INF NEW (to 1 mo)	L <input type="checkbox"/> CHICK EMBRYO
C <input type="checkbox"/> INF (1-23 mo)	M <input type="checkbox"/> DOGS

PANCREAS / * physiol

* PREGNANCY

Pancreatitis therapy in pregnancy:

(20)	J <input type="checkbox"/> CATS	T <input type="checkbox"/> RATS
A <input checked="" type="checkbox"/> PREGN	K <input type="checkbox"/> CATTLE	U <input type="checkbox"/> ANI
B <input type="checkbox"/> INF NEW (to 1 mo)	L <input type="checkbox"/> CHICK EMBRYO	V <input type="checkbox"/> HUM
C <input type="checkbox"/> INF (1-23 mo)	M <input type="checkbox"/> DOGS	W <input type="checkbox"/> MALLI
D <input type="checkbox"/> CHILD PRE (2-5)	N <input type="checkbox"/> FROGS	X <input type="checkbox"/> FEM/

PANCREATITIS / * ther

PREGNANCY COMPL / * ther

CHECK TAGS: Experimental Animals and Veterinary Animals

Experimental animals:

The identity of the animal figuring in any article is always supplied by the indexer. The most common experimental animals are pre-printed on the Data Form. If the animal in the study does not appear pre-printed, type the animal heading from MeSH in Field 21.

The animal check tag is naturally NIM. The animal supplied in Field 21 will therefore naturally be NIM.

Veterinary animals:

This is loosely defined as "non-experimental", "non-check-tag" animals and will figure in anatomical studies & physiological studies where the species is important as a species and in veterinary articles.

In such cases the name of the animal will be IM and will take a subheading (this will be discussed in detail later). When another animal picked up for depth indexing figures in addition to the animal which is the IM and therefore the point, or in comparison with the major animal, subheadings should be used.

Index diseases in animals under the precoordinated animal/diseases term (IM) + the name of the animal (NIM), whether pre-printed or supplied.

See the next page for examples of indexing and checking tags.

CHECK TAGS

In the examples below, note that whether an experimental animal or a veterinary animal, whether IM or NIM, the tag ANIMAL is always checked.

Anatomy of the cat joint:

J <input type="checkbox"/> CATS	T <input type="checkbox"/> RATS	c <input type="checkbox"/>
K <input type="checkbox"/> CATTLE	U <input checked="" type="checkbox"/> ANIMAL	d <input type="checkbox"/>
mo) L <input type="checkbox"/> CHICK EMBRYO	V <input type="checkbox"/> HUMAN	e <input type="checkbox"/>
M <input type="checkbox"/> DOGS	W <input type="checkbox"/> MALE	f <input type="checkbox"/>

CATS / * anat

JOINTS / * anat

Effect of cortisone on joint enzymes in arthritis in the cat:

J <input checked="" type="checkbox"/> CATS	T <input type="checkbox"/> RATS	c <input type="checkbox"/>
K <input type="checkbox"/> CATTLE	U <input checked="" type="checkbox"/> ANIMAL	d <input type="checkbox"/>
mo) L <input type="checkbox"/> CHICK EMBRYO	V <input type="checkbox"/> HUMAN	e <input type="checkbox"/>
M <input type="checkbox"/> DOGS	W <input type="checkbox"/> MALE	f <input type="checkbox"/>
si) N <input type="checkbox"/> FROGS	X <input type="checkbox"/> FEMALE	g <input type="checkbox"/>

CORTISONE / * pharm

JOINTS / * drug eff

JOINTS / enzymol

ARTHRITIS / * enzymol

Treatment of arthritis in Siamese cats:

J <input checked="" type="checkbox"/> CATS	T <input type="checkbox"/> RATS	c <input type="checkbox"/>
K <input type="checkbox"/> CATTLE	U <input checked="" type="checkbox"/> ANIMAL	d <input type="checkbox"/>
10) L <input type="checkbox"/> CHICK EMBRYO	V <input type="checkbox"/> HUMAN	e <input type="checkbox"/>
M <input type="checkbox"/> DOGS	W <input type="checkbox"/> MALE	f <input type="checkbox"/>
N <input type="checkbox"/> FROGS	X <input type="checkbox"/> FEMALE	g <input type="checkbox"/>

CAT DISEASES / * ther

ARTHRITIS / * vet

ARTHRITIS / ther

Anatomy of the cat joint
(the article discusses monkeys' joints too):

J <input type="checkbox"/> CATS	T <input type="checkbox"/> RATS	c <input type="checkbox"/>
K <input type="checkbox"/> CATTLE	U <input checked="" type="checkbox"/> ANIMAL	d <input type="checkbox"/>
L <input type="checkbox"/> CHICK EMBRYO	V <input type="checkbox"/> HUMAN	e <input type="checkbox"/>
M <input type="checkbox"/> DOGS	W <input type="checkbox"/> MALE	f <input type="checkbox"/>
N <input type="checkbox"/> FROGS	X <input type="checkbox"/> FEMALE	g <input type="checkbox"/>
O <input type="checkbox"/> GUINEA PIGS	Y <input type="checkbox"/> IN VITRO	h <input type="checkbox"/>
P <input type="checkbox"/> HAMSTERS	Z <input type="checkbox"/> CASE REPT	i <input type="checkbox"/>
Q <input type="checkbox"/> MICE	a <input type="checkbox"/> CLIN RES	j <input type="checkbox"/>
R <input type="checkbox"/> MONKEYS	b <input type="checkbox"/> COMP-STUDY	k <input type="checkbox"/>
S <input type="checkbox"/> RABBITS		

CATS / * anat

JOINTS / * anat

MONKEYS / anat

Note that the fields on the Data Form have been somewhat distorted and re-arranged to make the format more economical. The purpose of these examples is to show the required tags for certain types of article.

Dr. Michael DeBakey

George Washington's illnesses

Did Washington have gout?

(15) SUBJECT NAME
DeBakey M

(15) SUBJECT NAME
Washington G

(15) SUBJECT NAME
Washington G

(19)		c <input type="checkbox"/> ANCIENT
A	<input type="checkbox"/> HIST ART	d <input type="checkbox"/> MEDIEVAL
B	<input type="checkbox"/> HIST BIOG	e <input type="checkbox"/> MODERN
C	<input checked="" type="checkbox"/> BIOG-OBIT	f <input type="checkbox"/> 15th CENT
D	<input type="checkbox"/> SYMPOS	g <input type="checkbox"/> 16th CENT
E	<input type="checkbox"/> PROCEED	h <input type="checkbox"/> 17th CENT
F	<input type="checkbox"/> TECH REPT	i <input type="checkbox"/> 18th CENT
G	<input type="checkbox"/> MONogr	j <input type="checkbox"/> 19th CENT
H	<input type="checkbox"/> ENG ABST	k <input type="checkbox"/> 20th CENT

(19)		<input type="checkbox"/> PREGN
A	<input checked="" type="checkbox"/> HIST ART	<input type="checkbox"/> INF NEW (to 1 mo)
B	<input checked="" type="checkbox"/> HIST BIOG	<input type="checkbox"/> CHILD PRE (2-5)
C	<input checked="" type="checkbox"/> BIOG-OBIT	<input type="checkbox"/> PROCEED
D	<input type="checkbox"/> SYMPOS	<input type="checkbox"/> CHILD (6-12)
E	<input type="checkbox"/> PROCEED	<input type="checkbox"/> ADOLESC (13-18)
F	<input type="checkbox"/> TECH REPT	<input type="checkbox"/> TECH REPT
G	<input type="checkbox"/> MONogr	<input type="checkbox"/> ADULT (19-44)
H	<input type="checkbox"/> ENG ABST	<input type="checkbox"/> MID AGE (45-64)

(19)		<input type="checkbox"/> AGED (65+)
T	<input type="checkbox"/> RATS	<input type="checkbox"/> RATS
U	<input type="checkbox"/> ANIMAL	<input type="checkbox"/> ANIMAL
V	<input checked="" type="checkbox"/> HUMAN	<input checked="" type="checkbox"/> HUMAN
W	<input type="checkbox"/> MALE	<input checked="" type="checkbox"/> MALE
X	<input type="checkbox"/> FEMALE	<input type="checkbox"/> FEMALE
Y	<input type="checkbox"/> IN VITRO	<input type="checkbox"/> IN VITRO
Z	<input type="checkbox"/> CASE REPT	<input type="checkbox"/> CASE REPT
i	<input type="checkbox"/> 18th CENT	<input type="checkbox"/> 18th CENT
j	<input type="checkbox"/> 19th CENT	<input type="checkbox"/> 19th CENT
k	<input type="checkbox"/> 20th CENT	<input type="checkbox"/> 20th CENT

UNITED STATES

* FAMOUS PERSONS

UNITED STATES

Co

* FAMOUS PERSONS

UNITED STATES

Contribution of DeBakey to heart surgery

(20)		c <input type="checkbox"/> ANCIENT
A	<input type="checkbox"/> PREGN	d <input type="checkbox"/> MEDIEVAL
B	<input type="checkbox"/> INF NEW (to 1 mo)	e <input type="checkbox"/> MODERN
C	<input type="checkbox"/> INF (1-23 mo)	f <input type="checkbox"/> 15th CENT
D	<input type="checkbox"/> CHILD PRE (2-5)	g <input type="checkbox"/> 16th CENT
E	<input type="checkbox"/> CHILD (6-12)	h <input type="checkbox"/> 17th CENT
F	<input type="checkbox"/> ADOLESC (13-18)	i <input type="checkbox"/> 18th CENT
G	<input type="checkbox"/> ADULT (19-44)	j <input type="checkbox"/> 19th CENT
H	<input type="checkbox"/> MID AGE (45-64)	k <input type="checkbox"/> 20th CENT
I	<input type="checkbox"/> AGED (65+)	
A	<input checked="" type="checkbox"/> HIST ART	T <input type="checkbox"/> RATS
B	<input type="checkbox"/> HIST BIOG	U <input type="checkbox"/> ANIMAL
C	<input checked="" type="checkbox"/> BIOG-OBIT	V <input checked="" type="checkbox"/> HUMAN
D	<input type="checkbox"/> SYMPOS	W <input type="checkbox"/> MALE
E	<input type="checkbox"/> PROCEED	X <input type="checkbox"/> FEMALE
F	<input type="checkbox"/> TECH REPT	Y <input type="checkbox"/> IN VITRO
G	<input type="checkbox"/> MONogr	Z <input type="checkbox"/> CASE REPT
H	<input type="checkbox"/> ENG ABST	i <input type="checkbox"/> 18th CENT
I	<input type="checkbox"/> COMP STUDY	j <input type="checkbox"/> 19th CENT
K	<input checked="" type="checkbox"/> 20th CENT	k <input checked="" type="checkbox"/> 20th CENT

UNITED STATES / hist

UNITED STATES

HEART SURGERY / hist

UNITED STATES

HEART SURGERY / * hist

CHECK TAGS

Tag	Priority 1 & 2 English	Priority 1 & 2 Foreign	Priority 3 English	Priority 3 Foreign
AUTHOR AFFILIATION Field 12	*	check this tag	check this tag	do not check
AUTHOR ABSTRACT Field 22	**	check this tag	check this tag & check also ENG ABST in Field 19 (H) if the article has an English abstract	do not check Field 22 but check Field 19H
GOVERNMENT SUPPORT		check this tag	check this tag	check this tag

* Do not check the tag for AUTHOR AFFIL
for any language which requires transliteration

Effective with 1975 journals
(i.e. journals dated 1975
by the publisher)

** ONLY
English abstracts are put into
the computer in full

*** Some foreign articles have only
vernacular abstracts & some have
both vernac & English. This check-
ing refers to foreign articles
with ENGLISH abstracts

DATA FORM

EXERCISE I

Check Tags

Using a Data Form for reference, indicate here what check tag or tags, if any, you would index under for articles on subjects discussing the following:

1. both humans and animals
2. children without the exact age indicated by the author
3. US Army recruits
4. both rats and pigs
5. a 70-year-old elephant
6. newborn mice
7. an MD dying in 1965
8. an MD accepting an award
9. a biographical sketch of 20th century Nobel Prize winners in medicine
10. the comparative effects of chlorpromazine on schizophrénics and neurotics
11. the lung capacity of smokers
12. the complications of pregnancy in dogs
13. the contribution of Benjamin Franklin to 18th century electrophysiology
14. a history of syphilis giving case studies of famous artists
15. the growth of infants
16. submerged bacterial cultures
17. ancient medicine in China
18. an unusual case of staphylococcal infection
19. liver circulation in human volunteers
20. treatment of chickenpox in preschool children
21. the blind man and the French Revolution
22. corrosion of dental amalgam in the mouth
23. corrosion of dental amalgam
24. in vivo and in vitro corrosion of dental amalgam
25. case report of an eye tumor in a newborn shepherd dog

DATA FORM

EXERCISE II

IM & NIM

Using a Data Form as a reference, indicate whether you would index the concept typed in CAPITALS as IM or NIM.

1. the heart rate in INFANTS
2. breathing in NEWBORN INFANTS
3. respiratory diseases in NEWBORN INFANTS
4. respiratory diseases in INFANTS
5. headache in the MIDDLE AGED
6. smoking among American ADOLESCENTS
7. INFANT mortality in thalidomide therapy
8. PREGNANCY in experimental schistosomiasis in DOGS
9. PREGNANCY in DOGS
10. ectopic PREGNANCY in a pet BEAGLE
11. plant poisoning in CATTLE
12. precocious adult behavior in young RATS
13. experimental arthritis in MICE
14. motor neurons in RABBITS
15. injuries in covered wagons in the 19TH CENTURY
16. injuries in chariots in ANCIENT ROME
17. history of research on the liver in the 17TH and
18TH CENTURIES
18. development of x-ray technics TODAY
19. blood groups in MONKEYS
20. peptic ulcer in a 6-year-old CHILD

COORDINATION

Coordination or coordinate indexing is the use of two or more indexing terms in various combinations to describe the content of an article.

Coordination is described and illustrated in the MEDLARS INDEXING MANUAL in Section 2.1.1.

MEDLINE users apply coordination on almost all their searches. Seldom will a requester ask for citations on GOUT: rather he will require some specific aspect of gout or gout in relation to some other parameter. Our indexing by coordination and our picking up of significant discussions permit the searcher to retrieve by any coordination of the aspects we have covered, specific facets and relationships requested by the user.

Aside from their high speed, the value of computers in information services lies in the wondrous application to coordination in retrieval.

Since the concept of coordination is geared to machine retrieval, Indexers will almost never index a single term without coordinating it with another term: with one or more main headings, with one or more subheadings, with one or more check tags or with one or more combinations of all.

Indexers will be asked repeatedly by their revisers, "What is the coordinate for?" If unrevised, the indexer will repeatedly ask himself the same question and index accordingly. Annotations in MeSH spell out required coordinates or suggested coordinations and instructions in the MEDLARS INDEXING MANUAL always speak in terms of coordinates. All indexing instructions in the various TECHNICAL NOTES will be issued in terms of coordinates since this is the only way we can serve searchers.

TYPES OF COORDINATION IN MEDLARS

Note that the * means that the concept is printed in INDEX MEDICUS and that concepts without the * are stored in the computer, available for retrieval in a search.

1. MAIN HEADING + MAIN HEADING
 - a. both equal in significance
 - * LIVER * PNEUMONIA
 - * GOUT * STREPTOCOCCAL INFECTIONS
 - b. one subordinate
 - * HOSPITALS, SPECIAL STATISTICS
 - * HEPATITIS CHILD
2. MAIN HEADING + check tag
3. MAIN HEADING + subheading
4. PRE-COORDINATED MAIN HEADING
 - a. two MAIN HEADINGS originally
 - * LIVER GLYCOGEN = originally * LIVER + * GLYCOGEN
 - * MITOCHONDRIA, LIVER = originally * MITOCHONDRIA + * LIVER
 - b. MAIN HEADING + check tag
 - c. MAIN HEADING + subheading
 - * DIABETES MELLITUS, JUVENILE = originally * DIABETES MELLITUS + CHILD
 - * COMMUNICABLE DISEASE CONTROL = originally COMMUNICABLE DISEASES / * prev

PRE-COORDINATED HEADINGS

A pre-coordinated heading is one which was created as a single term from two or more headings originally occurring together very frequently in the literature. Although liver glycogen is easily retrievable in a coordinate system as LIVER + GLYCOGEN, the frequent co-occurrence suggests LIVER GLYCOGEN, a better term since the resultant combination can be further qualified by coordination with a single subheading, as LIVER GLYCOGEN / biosynthesis, or LIVER GLYCOGEN / isolation.

Here are some popular pre-coordinations:

an organ + disease	STOMACH DISEASES
an organ + neoplasm	STOMACH NEOPLASMS
an organism + infection	STAPHYLOCOCCAL INFECTIONS
an animal + disease	DOG DISEASES
a disease + a site	HYPERTENSION, PORTAL

What are some others?

See also Figure 80 for other examples of pre-coordinated diseases.

COORDINATION

Exercise

There are hundreds of pre-coordinated disease headings in MeSH. Often, however, COORDINATION is necessary to index an organ/disease concept correctly for diseases for which there is no pre-coordinated heading.

What are the coordinations for the following concepts in order to retrieve the disease concept adequately covered from both the organ and disease aspects?

1. jejunal diseases
2. iris diseases
3. corneal cancer
4. common bile duct diseases
5. pancreatic calculi
6. canine neoplasms
7. osteitis of the cervical vertebrae
8. gangrene of the left foot
9. staphylococcal infections of the stomach
10. gastric staph infections
11. injuries of the anterior chamber
12. diseases of the fingers

COORDINATION

Exercise

In the following titles, representative of the true content of the articles, what are the coordinates for the MeSH term indicated?

1. Determination of keratin in the cornea in corneal dystrophy

KERATIN +

2. Lipase activity of the brain in brain tumors

LIPASE +

3. The role of estrogen in ovarian diseases and pregnancy

ESTROGENS +

4. The effect of hepatitis on liver metabolism in glucose-treated rats

LIVER +

5. Effect of oral insulin on liver glycogen metabolism in x-irradiated mice

INSULIN +

6. Liver catalase in meningitis; correlation with brain catalase

CATALASE +

;

BRAIN +

7. Tooth structure in raccoons and its relation to cellulose digestion

TOOTH +

8. Isolation of Salmonellae from the pancreas in diabetes; the metabolic effect of Salmonella infections of the pancreas in diabetes

PANCREAS +

;

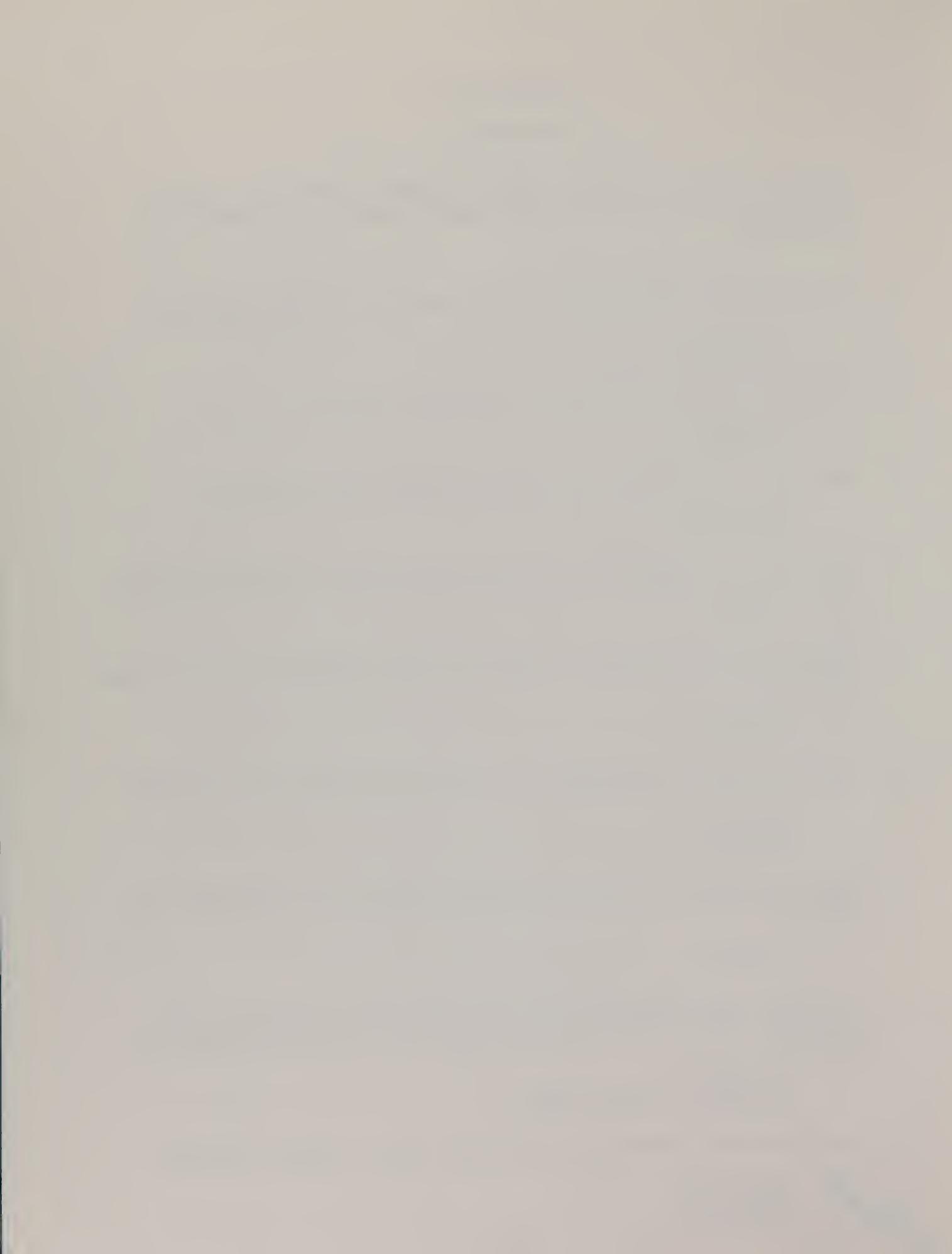
SALMONELLA INFECTIONS +

9. Staphylococcal mastitis in Maryland cows; a recent epidemic

MASTITIS +

;

MARYLAND +



QUALIFIERS
(SUBHEADINGS)

In 1975 under MEDLARS II the descriptor commonly referred to in the past as "subheadings" was officially named "qualifier" and is so referred to in official documents and in the Annotated MeSH annotations. Since, however, page XXIX of the Annotated MeSH refers to "subheadings" and since the public MeSH on page IX calls them "subheadings" and since indexers and revisers daily call them "subheadings", this is how we shall refer to them during this course and in daily parlance.

- I. Purpose and need for subheadings
- II. Coordination: review
 - o definition & philosophy
 - o types
- III. History of subheadings at NLM
 - o pre-1954
 - o SHAL 1954
 - o MeSH 1960
 - o MeSH 1965-present
- IV. Subheading lists
 - o alphabetical list of abbreviations
 - o categorized list
- V. Form on the Data Form Field 21
- VI. Definition & use of subheadings by category
- VII. Common coordinations
- VIII. General rules
 - o main heading/subheading duplicates (INDEXING MANUAL 12.3.10)
 - o invalid main heading/subheading combinations (INDEXING MANUAL 12.5)
 - o permissible number for same main heading: 3

- o treeing of subheadings (TECHNICAL NOTE 208)
- o coverage in the INDEXING MANUAL (Section 12)
and in the ANNOTATED MeSH)

IX. General reminders

- o index subheadings using only the categorized list of subheadings
- o index a main heading with two or more sub-headings IM only once - exceptions
- o avoid nonsensical combinations even though legal by category (i.e., MILITARY SCIENCE / adverse effects is silly)
- o check the INDEXING MANUAL, Section 12
- o always use the Annotated MeSH for subheading permissions and restrictions for specific main headings
- o use good sense
- o do not force a borderline or questionable sub-heading onto a main heading if there is any doubt: nothing is better than a wrong something

SUBHEADINGS: HISTORY

EFFECT OF SODIUM AND POTASSIUM ON LIVER METABOLISM OF GLUCOSE

1954-1959: LIVER - metabolism
 glucose, eff. of sodium & potassium

GLUCOSE - metabolism
 liver, eff. of sodium & potassium

SODIUM - effects
 on liver metab. of glucose

POTASSIUM - effects
 on liver metab. of glucose

1960-1962: LIVER - metabolism

GLUCOSE - metabolism

SODIUM - pharmacology

POTASSIUM - pharmacology

1963-1965: LIVER SODIUM

METABOLISM PHARMACOLOGY

GLUCOSE POTASSIUM

Problem: Effect of glucose on liver metabolism of sodium

LIVER GLUCOSE

METABOLISM PHARMACOLOGY

SODIUM

Identical main headings in correct coordinations result
 in false drops

1966- LIVER metabolism

GLUCOSE metabolism

SODIUM pharmacology (later pharmacodynamics)

POTASSIUM pharmacology (later pharmacodynamics)

Index Section

MANDATORY SUBHEADING ABBREVIATIONS

1976

abnorm	instrum
admin	isol
adv eff	man
anal	metab
analog	methods
anat	microbiol
antag	mortal
biosyn	nurs
blood	occur
blood supply	parasitol
csf	pathol
chem ind	pathogen
chem syn	pharm
class	physiol
compl	physiopathol
congen	pois
cytol	prev
defic	rad eff
diag	radiogr
diag use	radiother
diet ther	rehabil
drug eff	secret
drug ther	stand
educ	supply
embryol	surg
enzymol	ther
ethnol	ther use
etiol	tox
familial	transm
growth	transpl
hist	ultrastruct
immunol	urine
inj	util
innerv	vet

SUBHEADINGS AND COORDINATION

The coordination of a main heading and a subheading is the most popular type of coordination affecting the major user of MEDLARS, the user of INDEX MEDICUS.

We shall discuss subheadings the way we index: by pairing a main heading from a given category with the subheading available to that category, as

PEPTIC ULCER / chem ind

Category C Category C

We shall discuss also with a given main heading/subheading combination from one category, the corresponding main heading/subheading combination from another tree or category, mandatory in accordance with our principle of coordination, as

PEPTIC ULCER / chem ind
(C) (C)

ASPIRIN / adv eff
(D) (D)

Note the coordinations below regardless of the category of the pair we coordinate first:

PEPTIC ULCER / chem ind
ASPIRIN / adv eff

ASPIRIN / adv eff
PEPTIC ULCER / chem ind

SCHIZOPHRENIA / drug ther
PROMAZINE / ther use

PROMAZINE / ther use
SCHIZOPHRENIA / drug ther

Category A - Anatomy

abnorm
anal
anat
blood supply
cytol
drug eff
embryol

enzymol
growth
immunol
inj
innerv

metab
microbiol
parasitol
pathol
physiol

physiopathol
rad eff
radiogr
secret
surg
transpl
ultrastruct

see attached for subcategory restrictions

Category B - Organisms

anal (not B2)
anat (not B3, 4)
blood (only B2)
class
csf (only B2)

cytol (not B2, 4)
drug eff (not B2)
embryol (not B3, 4, 5)
enzymol (not B2)
growth

immunol
isol (not B2, 6)
metab
microbiol (only B1,
2, 6)

parasitol (only B1,
2, 6)
pathogen (not B2, 6)
physiol
rad eff (not B2)
ultrastruct (not B2)
urine (only B2)

Category C - Diseases

anal (only C4)
blood
blood supply (only C4)
chem ind
class
compl
congen (not C16)
csf
diag

diet ther
drug ther
embryol
enzymol
etiol
familial
hist
immunol
metab

microbiol
mortal
nurs
occur
parasitol
pathol
physiopathol
prev

radiogr
radiother
rehabil
secretion (only C4)
surg
ther
transm
urine
vet

Category A - Anatomy

abnorm (not A10, 11, 12, 16)
anal
anat (not A11, 12)
blood supply (not A7, 11, 12)
cytol (not for subcellular terms)
drug eff
embryol (not A11, 12, 16)
enzymol
growth (not A10, 11, 12, 16)
immunol
inj (not A10, 11, 12, 16)
innerv (not A8, 10, 11, 12)

metab
microbiol
parasitol
pathol (not A12)
physiol
physiopathol (not A11, 12)
rad eff
radiogr
secret
surg
transpl
ultrastruct

Category D - Chemicals & Drugs

admin	chem syn	immunol	rad eff	secret (not D25, 26)
adv eff	class	isol	stand	
anal	csf (not D25, 26)	metab	supply	
analogs	defic (not D25, 26)	pharm	ther use	
antag	diag use	physiol	tox	
biosyn	hist	pois	urine (not D25, 26)	
blood	(not D25, 26)			

Category E - Procedures & Technics

adv eff	man (only E6)	stand	rad eff (only F1, 2)
class	methods	supply	radiogr (only F3)
hist	mortal	util	rehabil (only F3)
instrum	nurs	vet	stand (only F4)

Category F - Psychology & Psychiatry

adv eff (only F4)	methods (only F4)	rad eff (only F1, 2)
blood (only F3)	microbiol (only F3)	radiogr (only F3)
chem ind (only F3)	mortal (also F4)	rehabil (only F3)
class (all trees)	nurs	stand (only F4)
compl	occur	supply (only F4)
csf	parasitol	surg
diag	familial	ther
diet ther	hist (all trees)	urine
	immunol (only F3)	
	instrum (only F2, 4)	
	man (only F4)	
	metab (only F3)	

Category G - Biological Sciences, Health Occupations, Environment,
Biology & Physiology

anal (only G3)
class (all trees)
drug eff (only G4-11)
educ (only G1-3)
hist (only G1-3)
instrum (only G1-3)
man (only G1, 2)
methods (only G1-3)
prev (only G3)
rad eff (only G4-12)
stand (only G1-3)
util (only G1-3)

Category H - Physical Sciences

adv eff
class
diag use
educ
hist
instrum
man
methods
prev (only II)

stand
supply
ther use
util

Category I - Social Sciences

class
educ
hist
man
methods
prev (only II)

stand
supply
util

Category J - Technology, Industry, Agriculture, Food

adv eff
anal
class
educ (with discretion)
hist
instrum
man
methods
pois
rad eff
stand
supply
tox
util

Category K - Humanities

class educ hist

Category L - Information & Communication

class
educ
hist
instrum
man
methods
stand
supply
util

Category M - Named Groups

class educ
 hist

Category N - Health Care

class
educ (only N1, 2)
hist
man (only N2, 3, 4)
methods
stand
supply (only N2, 3, 4)
util

Category Z - Geographic Names

ethnol

FORM OF SUBHEADINGS ON THE DATA FORM

* indicates an IM heading or main heading/subheading combination

/ heralds a subheading

subheadings must be abbreviated

* GOUT means GOUT is IM

GOUT means GOUT is NIM

GOUT / * diag means GOUT with the subheading diagnosis
is IM

GOUT / diag means GOUT with the subheading diagnosis
is NIM

* GOUT / diag means GOUT is IM without a subheading &
GOUT / diagnosis is NIM

* GOUT / * diag is almost NEVER permitted

Note the spacing before and after the slash and before
and after the asterisk. This is deliberate: it is thus
easier for a reviser to read and to correct.

SUBHEADINGS

Common Coordinations

The groups below are commonly met pairings of subheading combinations useful in retrievals. Add others to the list as you meet them.

(DISEASE A) /etiology	-where the cause-and-effect relationship is known
(DISEASE B) /complications	
(DISEASE A) /complications	-where the diseases are associated but cause-effect is not stated
(DISEASE B) /complications	
(DISEASE) /drug therapy	(DISEASE) /chemically induced
(DRUG) /therapeutic use	(DRUG) /adverse effects
(DISEASE) /pathology	(DISEASE) /etiology
(ORGAN) /pathology	(TECHNIC) /adverse effects
(DISEASE) /microbiology	(ORGAN) /drug effects
(ORGAN) /microbiology	(DRUG) /pharmacodynamics
(ORGANISM) /isolation &	
(ORGANISM) /drug effects	(ORGANISM) /metabolism
(DRUG) /pharmacodynamics	(DRUG) /metabolism
(ORGAN) /metabolism	(ORGAN) /analysis
(DRUG) /metabolism	(DRUG) /analysis
(DISEASE) /metabolism	(DISEASE) /metabolism
(ORGAN) /metabolism	(ORGAN) /analysis
(DRUG) /metabolism	(DRUG) /analysis
(ENZYME) /metabolism *	(ORGAN) /radiation effects
(ORGAN) /enzymology	RADIATION EFFECTS
(DISEASE) /enzymology	specific radiation

* or /blood, or /urine, or /cerebrospinal fluid, or
/analysis

SUBHEADINGS

/metabolism

- △ The following words appear in titles and texts frequently . In MEDLARS they are properly covered by the subheading / metabolism.

absorption	release
binding	secretion = / secretion
breakdown	splitting
conversion	storage
degradation	synthesis = / biosynthesis
distribution	transport
elimination (consider / urine)	turnover
excretion (consider / urine)	uptake
incorporation	utilization (but not the
mobilization	subheading / utilization)

- △ / metabolism may be used with the names of organs (Category A), names of organisms (Category B), names of diseases (Category C) and names of drugs and chemicals (Category D).

PANCREAS / metabolism (A)

SALMONELLA / metabolism (B)

PANCREATITIS / metabolism (C)

SODIUM / metabolism (D)

- △ Note that concepts such as hydrolysis, oxidation, de-methylation, deamination, alkylation, etc. would fall within the definition of / metabolism also if taking place in tissue. If taking place in a test tube, without tissue present, the concepts would be considered "chemical" rather than metabolic and / metabolism would not apply.

SUBHEADINGS

EXERCISE

Using the subheadings available to Categories A, B and C, index the following titles which you will assume faithfully describe the content of the article. Use a Data Form for each title and mark all required check tags. Assume that the articles involved human beings (therefore you will check HUMAN) unless otherwise specified.

1. Agenesis of the lung
2. The isolation of *Salmonellae* from the colon
3. Surgery of intestinal neoplasms
4. Kidney function in the raccoon
5. Hand injuries in traffic accidents
6. Liver function in pancreatitis and hepatitis
7. The study of erythrocytes in anemia
8. Determination of leukocyte phosphatase in agamma-globulinemia
9. Chemical composition of the lung in pneumonia
10. Uptake of iron by the liver and erythrocytes in hemochromatosis
11. Brain histology in multiple sclerosis
12. Metabolism of the cell wall of *Mycobacterium tuberculosis* in pulmonary tuberculosis
13. Electron microscopy of the normal cornea and the cornea in various eye diseases
14. X-ray diagnosis of knee injuries and their radiotherapy
15. Staphylococcal mastitis in Maryland cows; a recent epidemic
16. Isolation of *Salmonellae* from the pancreas in diabetes and the metabolic effect of *Salmonella* infections of the pancreas in diabetes
17. The origin, pathology and management of cancer
18. Chemistry and metabolism of the heart

SUBHEADINGS

EXERCISE

Check the correct MAIN HEADING/ subheading combination

1. Liver function in gout

- | | |
|---|---|
| a. LIVER / physiology
GOUT / physiology | c. LIVER / physiopathology
GOUT/ physiopathology |
| b. LIVER / physiology
GOUT / physiopathology | d. LIVER / physiopathology
GOUT / physiology |

2. Measles in four brothers

- | | |
|---------------------------|-------------------------------|
| a. MEASLES / transmission | b. MEASLES familial & genetic |
|---------------------------|-------------------------------|

3. Cytology of the dog lung

- | | |
|---------------------------------------|---|
| a. LUNG / cytology
DOGS / cytology | <i>b/c</i> LUNG / cytology
DOGS/ anatomy & histology |
|---------------------------------------|---|

4. Complications of hysterectomy

- | |
|-----------------------------------|
| a. HYSTERECTOMY / adverse effects |
| b. HYSTERECTOMY / complications |

5. Acetate biosynthesis in Mycobacteria

- | |
|---|
| a. ACETATES / biosynthesis
MYCOBACTERIUM/ biosynthesis |
| b. ACETATES / metabolism
MYCOBACTERIUM / biosynthesis |
| c. ACETATES / biosynthesis
MYCOBACTERIUM / metabolism |

6. Nursing in gout

- | | |
|----------------------------------|-----------------------------|
| a. GOUT / nursing | b. GOUT/ nursing
NURSING |
| c. GOUT/ nursing
NURSING CARE | |

7. Effect of streptomycin on E. coli
 - a. STREPTOMYCIN / drug effects
ESCHERICHIA COLI / drug effects
 - b. STREPTOMYCIN / pharmacodynamics
ESCHERICHIA COLI / drug effects
8. Taxonomy of ticks
 - a. TICKS
CLASSIFICATION
 - b. TICKS / classification
CLASSIFICATION
 - c. TICKS / classification
9. Classification of American occupations
 - a. OCCUPATIONS / classification
 - b. OCCUPATIONS
CLASSIFICATION
10. Effect of promazine therapy of appetite disorders
 - a. PROMAZINE / pharmacodynamics
APPETITE DISORDERS / drug effects
 - b. PROMAZINE / pharmacodynamics
APPETITE DISORDERS / drug therapy
 - c. PROMAZINE / therapeutic use
APPETITE DISORDERS / drug therapy
11. Agenesis of the skin
 - a. SKIN / abnormalities
 - b. SKIN DISEASES / congenital
12. Bacillus infections
 - a. BACILLUS INFECTIONS
 - b. BACILLUS / pathogenicity
 - c. BACILLUS
13. A new technic for determining blood volume
 - a. BLOOD VOLUME DETERMINATION / methods
 - b. BLOOD VOLUME DETERMINATION / instrumentation

14. Brain serotonin in gout

- a. BRAIN CHEMISTRY
SEROTONIN / chemistry
GOUT / metabolism
- b. BRAIN CHEMISTRY
SEROTONIN / analysis
GOUT / metabolism
- c. BRAIN / analysis
SEROTONIN / analysis
GOUT / analysis

15. Effect of x-ray on E. coli

- a. ESCHERICHIA COLI / radiation effects
- b. ESCHERICHIA COLI
RADIATION EFFECTS
- c. ESCHERICHIA COLI / radiation effects
RADIATION EFFECTS

16. Effect of x-ray therapy of gout

- a. GOUT / radiation effects
- b. GOUT / radiation effects
RADIATION EFFECTS
- c. GOUT / radiotherapy
- d. GOUT / radiotherapy
RADIOTHERAPY

17. Maximum safe dose of pargyline in dogs

- a. PARGYLINE / toxicity
- b. PARGYLINE / poisoning
- c. PARGYLINE / adverse effects

18. Blood copper in hemosiderosis

- a. COPPER / analysis
BLOOD CHEMICAL ANALYSIS
HEMOSIDEROSIS / blood
- b. COPPER / blood
BLOOD CHEMICAL ANALYSIS
HEMOSIDEROSIS / blood
- c. COPPER / blood
HEMOSIDEROSIS / blood

19. Influenza morbidity among American school children

- a. INFLUENZA
MORBIDITY
- b. INFLUENZA / occurrence
MORBIDITY
- c. INFLUENZA / occurrence

20. Heart function in normal and tuberculotic women

- a. HEART / physiology
TUBERCULOSIS / physiology
- b. HEART / physiopathology
TUBERCULOSIS / physiopathology
HEART / physiology
- c. HEART / physiopathology
TUBERCULOSIS / physiopathology

21. Urinary corticoids in gout

- a. GOUT / urine
ADRENAL CORTEX HORMONES
/ urine
- b. GOUT / urine
ADRENAL CORTEX HORMONES
/ urine
URINE / analysis

22. Cortisone chemistry

- a. CORTISONE / chemistry
- b. CORTISONE
CHEMISTRY
- c. CORTISONE / analysis

23. Chest x-ray in pulmonary tuberculosis

- a. TUBERCULOSIS, PULMONARY
THORACIC RADIOGRAPHY
- b. TUBERCULOSIS, PULMONARY / radiography
THORACIC RADIOGRAPHY
- c. TUBERCULOSIS, PULMONARY / radiography

24. Kidney function in kidney disease

- a. KIDNEY / physiology
KIDNEY DISEASES / physiology

- b. KIDNEY / physiology
KIDNEY DISEASES / physiopathology
 - c. KIDNEY / physiopathology
KIDNEY DISEASES / physiopathology
 - d. KIDNEY / physiopathology
25. Cardiology in the pharmacy student's curriculum
- a. CARDIOLOGY / education
PHARMACY / education
 - b. CARDIOLOGY / education
EDUCATION, PHARMACY
 - c. CARDIOLOGY / education
EDUCATION, PHARMACY
CURRICULUM
 - d. CARDIOLOGY / education
EDUCATION, PHARMACY
CURRICULUM
STUDENTS
26. Alabama needs more physicians
- a. PHYSICIANS / manpower
ALABAMA
 - b. PHYSICIANS / supply
ALABAMA
27. Use of hospitals by Blue Cross members
- a. HOSPITALS / utilization
BLUE CROSS / utilization
 - b. HOSPITALS
BLUE CROSS / utilization
 - c. HOSPITALS / utilization
BLUE CROSS
28. The supply of dentists
- a. DENTISTRY / manpower
 - b. DENTISTS / supply
29. The supply of naturopaths
- a. NATUROPATHY / manpower
 - b. NATUROPATHS / supply
 - c. NATUROPATHY / supply

SUBHEADINGS

EXERCISE

The concept underlined can be covered by a subheading. Supply the correct subheading after the main headings below. Obviously all concepts would be covered in indexing.

1. Kidney cytology in nephritis: KIDNEY /
2. Pancreatic lipase in pancreatitis: PANCREATITIS /
3. Gastritis pathology in German shepherd dogs:
GASTRITIS /
4. Use of heat in the treatment of fractures: HEAT /
5. Use of ultrasonics in the study of headache:
ULTRASONICS /
6. Availability of radiologists in Ghana: RADIOLOGY /
7. Availability of pharmacists in Ghana: PHARMACISTS /
8. Glucose utilization in diabetes: GLUCOSE /
9. Analysis of German formularies: FORMULARIES /
10. The functional role of cortisone: CORTISONE /
11. Diagnosis of hemochromatosis, with special reference to plasma proteins: HEMOCHROMATOSIS /
12. Cerebrospinal catalase in meningitis: MENINGITIS /
13. Effect of hepatitis on liver metabolism: HEPATITIS /
14. Tooth structure in raccoons and its relation to cellulose digestion: RACCOONS /

TOOLS AND REFERENCES

General Definition

Tools

minimal indispensable aids in the indexing operation

Authorities

sources aiding in the indexing operation. Either definitions and explanations in the authority lead to correct indexing or its chapter and section headings themselves lead to MeSH terms

References

sources which do not lead directly to actual headings but which are useful in clarifying information which in turn leads to correct indexing

Dictionaries

self-explanatory: the purpose of any dictionary is to define terms or, in the case of foreign language dictionaries, to give MEDLARS indexers English equivalents

TOOLS AND REFERENCES

MEDLARS

TOOLS

- o Annotated MeSH
MeSH Tree Structures

This is the alpha and omega of our tools. All indexing and searching begins and ends with these MeSH authorities. Regardless of indexing policy in general or rules governing specific areas in particular, nothing can be generated except in terms of the headings created and defined by MeSH and MeSH products.

- o MEDLARS Indexing Manual

This was created to expound general indexing practices under MEDLARS, with rules to cover the philosophy of indexing from the descriptive and subject standpoints, with emphasis, naturally, on the subject aspects. Explanations of general theory on check tags, subheadings, IM vs NIM, degree of depth, organs, organisms, diseases, drugs and chemicals, physiological processes, technics and technologies, and paramedical areas, are meant to apply to most articles indexed and are meant to answer questions to most problems posed by indexing. Often, specific areas go into great detail but the Indexing Manual was designed primarily as the tool to cover indexing theory. It was designed to answer the question, "How do I handle?" where is a concept rather than a specific heading. The handling of a specific heading is best directed by the Annotated MeSH.

- o Technical Notes
Technical Notes: Supplements

This tool was designed to discuss practices relating to groups of concepts, lying half-way between the general-

ties of the Indexing Manual and the specificities of the MeSH annotations. While the general approach to a subject may appear in the Indexing Manual, in a Technical Note the subject may be discussed at much greater length with possible application to individual concepts not able to be covered with relative brevity in the Indexing Manual.

The Technical Notes: Supplements constitute amplifications of both indexing policy from the manual and discussions in the Technical Notes themselves. For example, Technical Notes: Supplement 230: Blood Groups is a 31-page amplification of Technical Note 230 giving specific indexing instructions on blood-group symbols found in immunohematological literature.

AUTHORITIES

These are sources which MeSH and indexers draw upon in arriving at a correct indexing term. Instead of presenting a list here, we refer you to the BIBLIOGRAPHY published by MeSH in the Introduction to the annual MeSH presented to the public (the list does not appear in the Annotated MeSH). For example, in indexing bacteria, we resort to Bergey's Manual of Determinative Bacteriology for that is the authority upon which MeSH based its bacteria headings.

REFERENCES

These are texts in the Index Section reference collection which indexers use in guiding them to available MeSH terms. They are not listed among the authorities (bibliography) in MeSH, but are reputable reference books and textbooks on whose content an indexer can base a decision in selecting a MeSH heading. May's Diseases of the Eye is a good example.

INDEXING MANUAL

- I. Purpose
- II. General plan
- III. Indexing theory
 - o article selection
 - o article examination
 - o depth of indexing
 - o IM and NIM
- IV. MeSH
- V. Descriptive indexing
- VI. Check Tags
- VII. Subheadings
- VIII. Indexing principles by category
- IX. Index

ANALYSIS OF MeSH TREES

I. Purpose

- o to show coverage of the specific tree
- o to show subheading restrictions for the specific tree
- o to show major indexing principles governing headings in the specific tree
- o to point out salient features of the specific tree
- o to point out interesting headings in the specific tree

II. Limitations

The lectures on the MeSH categories and trees can touch only lightly on the boundless implications of the headings and their use. The lectures can never be complete and can offer only a glimpse of what will confront the indexer or searcher after the training period.

III. Coordination

While a main heading/subheading combination is the commonest type of coordination, it should be pointed out that a main heading/subheading combination from one category is almost always coordinated with a main heading or a main heading/subheading combination from another category. See page *a. 2, *1. -*

For example, with a Category A combination like LIVER / microbiology, the expected coordination from Category B is a B micro-organism paired with /isolation or from Category C, a microbial disease. Likely coordinations will be pointed out during the category or tree analysis.

INDEXING PRINCIPLES BY CATEGORY

I. Basic indexing principle: general vs specific

The first principle of indexing for MEDLARS is this: Index as specifically as possible. Stated another way the principle reads: Do not index under a general term when the article discusses the specific.

Although MeSH is replete with general terms under which are indented specific terms, the indexer must make a choice to cover faithfully the content of an article. He does not use PNEUMONIA when the author is discussing LUNG DISEASES in general. But in actual practice, with the state of medical research reaching out ever toward specific causes and effects, most literature we see as indexers tends to discuss specifics. Statistically he is called upon more often to account for specific lung diseases, for example, than for lung diseases in general.

II. Laboratory example

- o Turn to Tree A4 - ANATOMY - RESPIRATORY SYSTEM
- o Viewed as general-vs-specific, here are other possible arrays:

RESPIRATORY SYSTEM		LARYNX
LARYNX		GLOTTIS
LUNG	or	LARYNGEAL CARTILAGES
NOSE		
PARANASAL SINUSES		
PLEURA		
TRACHEA		

- o The indexer must give thought to each array - general or specific - in relation to the article in hand or each segment of the article in hand.

III. General observations

- o general headings tend to be in Priority 3, non-research journals
- o specific headings tend to be in Priority 1 and 2, research-oriented journals
- o indexers index as specifically as possible: in this way only can a searcher retrieve both the specific and the general

If an indexer indexes an article on streptomycin as STREPTOMYCIN, a searcher can retrieve this two ways. If a requester wants only STREPTOMYCIN, the article is retrieved as STREPTOMYCIN. If a requester wants all ANTIBIOTICS, the searcher can retrieve the STREPTOMYCIN article by asking the computer for every article indexed under ANTIBIOTICS and every specific heading indented under it by a device called an explosion. If the indexer has indexed STREPTOMYCIN under the general term ANTIBIOTICS, then a searcher would never retrieve it if the requester had stated that he didn't want any article on any antibiotic: he wanted only STREPTOMYCIN.

- o MeSH attempts to provide more specific headings as time goes on because
 - many headings frequently encountered in the large volume headings contain too much material to be perused easily
 - the demands of the various specialties become increasingly specific

CATEGORY A

- o Category A contains anatomical terms referring to both humans and animals. Almost all the headings referring to humans can be used with animals, but the headings in Tree A13 refer exclusively to animals.
- o There are many subheadings available to this category and they seldom give any difficulty in pairing with anatomical terms.

CATEGORY B

- o Category B contains the headings for living organisms.
- o The terms in B2 figure predominantly as the animal used in animal experiments (and hence exist on the data form as Check Tags) and in veterinary literature. Review the rules for IM vs NIM in this area.
- o There are many subheadings available to this category and they seldom give trouble in coordinating with the B main heading.

BACTERIA

Exercise

Using Bergey as an authority, determine the correct MeSH heading for the terms below, supposedly found in articles to be indexed:

1. *Bacillus tuberculosis*
2. *acidophilus bacilli*
3. *Micrococcus pyogenes*
4. *Bacillus shigae*
5. *Bacterium cassavae*
6. *Xanthomonas vignicola*
7. *Streptomyces africanus*
8. *Heteromyces*

VIRUSES

Exercise

Using Andrewes' VIRUSES OF VERTEBRATES
determine the MeSH headings for

1. Negishi virus
2. Myrmecia virus
3. murine thymic virus
4. feline ataxia virus
5. Yucaipa virus
6. hydrophobia virus
7. coryza virus
8. papilloma virus of rabbits
9. Visna virus

CATEGORY C

- o Category C, names of diseases, is the second largest category (only D is larger).
- o It is arranged in the order of the "popularity" of disease types: infections first, cancer second, then diseases loosely following the systemic arrangement corresponding to the anatomic systems in Category A, then specialized areas of disease types, and last, general pathological processes which merit special attention.
- o See Figure 80 for the types of diseases in MeSH. Note particularly the emphasis on pre-coordination and the indexing practice regarding IM and NIM.
- o There are many subheadings available to this category and their use is frequent and fairly standard.

TYPES OF DISEASE

1. pre-coordinated organ/disease term:

BRAIN DISEASES BREAST DISEASES SKIN DISEASES

2. pre-coordinated organism/disease term:

SALMONELLA INFECTIONS ADENOVIRUS INFECTIONS
TRYPANOSOMIASIS

a. usually requires coordination with organ/disease:

STREPTOCOCCAL INFECTIONS
LIVER DISEASES

b. many such relationships are inflammatory diseases
(-ITIS):

STAPH INFECTIONS for staphylococcal peritonitis
PERITONITIS

3. pre-coordinated organ/organism/disease term:

TUBERCULOSIS, ENDOCRINE (IM)
to be coordinated with specific endocrine term:
ADRENAL GLAND DISEASES (IM)

4. organ + pre-coordinated organ/disease term:

ILEUM (IM) for ileal diseases
INTESTINAL DISEASES (NIM)

CONJUNCTIVA (IM) for conjunctival diseases
EYE DISEASES (NIM)

5. specific disease names, descriptive:

CRANIOFACIAL DYSOSTOSIS HEMORRHAGIC DIATHESIS
AGRANULOCYTOSIS KIDNEY FAILURE, ACUTE
POLIOMYELITIS

6. syndromes:

descriptive: CRYING CAT SYNDROME
eponymous: KIMMELSTIEL-WILSON SYNDROME

INFECTION

- o Definition of "INFECTION"
- o Use in MEDLARS
- o "Infectious diseases" as INFECTION (note singular) or COMMUNICABLE DISEASES
- o Types of infection headings in MeSH
 - pre-coordinated general (BACTERIAL INFECTIONS; VIRUS DISEASES; PARASITIC DISEASES)
 - pre-coordinated specific (BORDETELLA INFECTIONS; ADENOVIRUS INFECTIONS)
 - historical or classical (Pasteurella pestis infection = PLAGUE; Clostridium botulinum infection = BOTULISM. See MeSH and Indexing Manual 15.10 for others)
 - derivative (SCHISTOSOMIASIS; ECHINOCOCCOSIS)
 - required coordinations
 - disease heading available but not the organism
 - organism heading available but not the disease
- o Relation to / microbiology and /isolation & purification
- o Relation to / pathogenicity

NEOPLASMS

I. General

The terms "tumor" and "cancer" are used interchangeably in MEDLARS and both are synonyms for "neoplasm" or "neoplastic disease." No distinction is made at present between the malignant or benign pathology of the neoplasms.

Granulomas and cysts are not considered neoplasms but are coordinated with the pre-coordinated organ/disease headings.

"Carcinoma" as a term should be examined to see whether it is a true histological type or merely a sophisticated synonym for "cancer". If the latter, it is ignored.

II. Indexing policy

Index every neoplasm at least two ways:

1. under the histological type
2. under the site

Choose the histological type (SARCOMA; ASTROCYTOMA; CARCINOMA, DUCTAL; CARCINOMA, BASAL CELL, &) from the directions given in the Index Section's TUMOR KEY as based on the tumor classification of the American Cancer Society.

Choose the site heading from among the pre-coordinated organ/neoplasm headings in MeSH in Tree Structure C4: BREAST NEOPLASMS, STOMACH NEOPLASMS, GASTROINTESTINAL NEOPLASMS, BRAIN NEOPLASMS, &.

Examples:

Basal cell carcinoma of the skin

Site: * SKIN NEOPLASMS
Hist: * CARCINOMA, BASAL CELL

Basal cell carcinoma of the skin of the forearm

Site: * SKIN NEOPLASMS
Coord: * FOREARM
Hist: * CARCINOMA, BASAL CELL

Surgical approach in astrocytoma of the temporal lobe:

Site: BRAIN NEOPLASMS / * surg
Coor: * TEMPORAL LOBE
Hist: ASTROCYTOMA / * surg
(METHODS)

III. References

- o MeSH Tree C4
- o MEDLARS INDEXING MANUAL, Section 17
- o TECHNICAL NOTES SUPPLEMENT: TUMOR KEY

IV. Alphabetical MeSH

The lecturer will discuss the array of neoplasm headings available in MeSH in the alphabetical listing starting with NEOPLASM --- : the meaning of the various terms and significant coordinations.

TUMOR KEY

Exercise

Using the TECHNICAL NOTES SUPPLEMENT: TUMOR KEY, index these neoplasms as histological types only. Do not concern yourself with the organ/neoplasms heading also required in indexing cancer, since this part of the exercise was designed to acquaint you with the Tumor Key, not to ask you to practice indexing policy.

- | | |
|--------------------------------|---------------------------------|
| 1. androblastoma | 6. giant cell carcinoma |
| 2. malignant androblastoma | 7. epidermoid carcinoma in situ |
| 3. fibroblastic sarcoma | 8. oat cell carcinoma |
| 4. transitional cell carcinoma | 9. angiomyolipoma |
| 5. hepatoma | 10. neurinoma |

Using the TUMOR KEY again, index these neoplasms under both the histological type and the required organ/neoplasms coordinates. This part of the exercise was designed to allow you to familiarize yourself with the requisites in cancer indexing at the elementary level.

11. fibroblastic osteosarcoma of the femur head
12. astroglioma of the frontal lobe
13. bile duct carcinoma
14. uterine fibroma
15. hepatoma
16. giant cell carcinoma of the forearm
17. laryngeal papilloma
18. oat cell carcinoma of the lung
19. carcinoma of the breast
20. malignant tumors of the neck
21. tumors of the fingers
22. carcinoma of the testis in dogs

FISTULA

- ▲ The following fistulae have been pre-coordinated for you in MeSH:

BILIARY FISTULA	RECTAL FISTULA
BLADDER FISTULA	Rectovaginal Fistula
Vesicovaginal Fistula	RECTOVAGINAL FISTULA
BRONCHIAL FISTULA	SALIVARY GLAND FISTULA
ESOPHAGEAL FISTULA	TRACHEOESOPHAGEAL FISTULA
Tracheoesophageal Fistula	URINARY FISTULA
GASTRIC FISTULA	Bladder Fistula
INTESTINAL FISTULA	VAGINAL FISTULA
Fissure in Ano	Rectovaginal Fistula
Rectal Fistula	Vesicovaginal Fistula
OROANTRAL FISTULA	VESICOVAGINAL FISTULA
PANCREATIC FISTULA	

- ▲ Sample indexing: Gastrojejunocolic fistula

Principle: Cover each element from the viewpoint of the anatomical site and the fistula, making each IM.

gastro + jejuno + colic + fistula

X GASTRIC FISTULA
 X COLONIC DISEASES ↘
 X INTESTINAL FISTULA ↗
 X JEJUNUM ↘

The arrows indicate the coordinations.

- ▲ Exercise: Index cholecystoduodenal fistula; vesicovaginorectal fistula; esophagotracheal fistula; renopulmonary fistula; uterine fistula

- ▲ The Indexing Manual gives a very complete coverage of the indexing of fistulae in 16.28.1

MANIFESTATIONS

EYE MANIFESTATIONS

NEUROLOGIC MANIFESTATIONS

ORAL MANIFESTATIONS

SKIN MANIFESTATIONS

- o only these 4 in the system
- o distinguish from EYE DISEASES, SKIN DISEASES, etc.
- o use EYE MANIFESTATIONS with only non-eye diseases;
use SKIN MANIFESTATIONS with only non-skin diseases;
etc.

EYE MANIFESTATIONS

PEPTIC ULCER

never EYE MANIFESTATIONS

CONJUNCTIVITIS

- o these 4 never take subheadings
- o while these 4 are supposed to be used discreetly by indexers, they should be searched during an organ/disease search

CATEGORY D (Chemicals and Drugs)

I. Definitions

- o a chemical
- o a drug
- o an endogenous substance
- o an action group
- o anything in Category D

II. Arrangement of D subcategories

- o chemical rationale
- o medical rationale
- o category rationale
- o indexing rationale

III. Subheadings

- o general policy
- o review of commonly used & significant subheadings with Category D terms
- o special emphasis on /ad-poi-tox
- o application by subcategory
- o Indexing Manual & Annotated MeSH permissions & restrictions
- o multiple subheadings

IV. Analysis by subcategory

- o over-all coverage of the subcategory
- o groupings within
- o detailed analysis of significant groupings
- o applicable subheadings

V. Indexing policy

- o if in MeSH, use the MeSH term
- o if not in MeSH, use the GUIDELINES (see next page)
- o if not in GUIDELINES , index by action group & submit to Chemical Specialist
- o enzymes
- o radioactive

VI. INDEXING QUERY--CHEMICAL form

- o when to fill out
- o how to fill out
- o disposition

GUIDELINES FOR INDEXING CHEMICALS

1. Index simple compounds preceded by these prefixes under the MeSH term alone if it is plural or with /analogs & derivatives if it is singular:

acetoxy	aza	carboxy	di + other	hexyl	naphthoxy	phenoxy
acetyl	benzyl	chloro	here	homo	naphthyl	
acyl	bis	dealkyl	epoxy	iodo	nitro	propoxy
aldo	bromo	deaza	ethoxy	iso	nor	propyl
alkoxy	butoxy	dehydro	ethyl	keto	octyl	propyloxy
alkyl	butyl	demethyl	fluoro	methoxy	oxa	tetra + other
alkyloxy	butyloxy	deoxy	halo	methyl	oxo	here
aryl	butyryl	desoxy	heptyl	mono +	pentoxy	thia
aryloxy	carbo			other	pentyl	tri + other here

2. Index simple compounds preceded by these prefixes under the MeSH term to which it is attached but DO NOT USE /analogs & derivatives:

S						
allo	beta	DL, dl	gamma	meta	ortho	sym
alpha	cis	epi	L, l	N, n	P, p	syn
anti	D, d	epsilon	levo	O, o	para	threo
asym	dextro	erythro	m	omega	R, rac	trans

3. Index these inorganic salts of compounds under the MeSH term but DO NOT USE /analogs & derivatives and do not use the term for the salt even if in MeSH:

bromhydrate	hydrobromate, -ide, -ite	monohydrate
chlorhydrate	hydrochlorate, -ide, -ite	monohydrobromide
dihydrate	hydrofluoride, -ide, -ite	monohydrochloride
dihydrobromide	hydroiodate, -ide, -ite	monohydrofluoride
dihydrochloride		monohydroiodide

4. Index salts of organic compounds in MeSH under the MeSH term but DO NOT USE /analogs & derivatives and do not index under the MeSH term for the salt (unless the salt is specifically discussed from the standpoint of its identity, then index the salt only as an NIM coordinate):

sodium diethyldithiocarbamate =	hetacillin potassium = HETACILLIN
DIETHYLDITHIOCARBAMATE	imidocarb HCl = IMIDOCARB
guanethidine sulfate = GUANETHIDINE	levamisole chloride = LEVAMISOLE

5. When a compound ends in -ATES (or -IC ACIDS) from among those acids in Category D2, index under the appropriate -ATES (or under -IC ACIDS if the -ates term is not in MeSH):

octyl acetate = ACETATES	propyl butyrate = BUTYRATES
ethyl formate = FORMATES	methyl propionate = PROPIONATES

6. But if the ester is attached to a distinctive drug in MeSH, index only under the name of the drug, with the subheading /analogs:

beclomethasone propionate = BECLOMETHASONE/analogs	but DESOXYCORTICOSTERONE
betamethasone valerate = BETAMETHASONE/analogs	ACETATE = DESOXYCORTICO- (DOCA) STERONE

7. Do NOT index but FLAG FOR THE CHEMICAL SPECIALIST

- Compounds prefixed with amino dihydro hydro tetrahydro trihydro diamino dihydroxy hydroxy thio
- All steroids
- All compounds containing -benzene or -phenyl-
- All complex compounds, i.e., those containing three or more components, like hydroxycyclohexylamine or N-(o-chlorobenzyl)- α -methylphenethylamine, etc.
- All experimental drugs, like Bayer D 205, SK 1133
- Any chemical indexed by these guidelines but about which the indexer is doubtful.

CHEMICAL INDEXING

The majority of chemicals are indexable using MeSH or the Guidelines. An INDEXING QUERY - CHEMICAL form will be submitted for those chemicals and drugs not able to be handled thus or those about which the indexer is doubtful.

Here are some useful additional data you should remember as general principles in indexing chemicals. They are reminders of recurring concepts.

- | | |
|--|--|
| "the chemistry of indoles" | * INDOLES
CHEMISTRY |
| "the chemical structure of
indoles" | * INDOLES
CHEMISTRY |
| "chemical analysis of indoles"

if on the structure of indoles | * INDOLES
CHEMISTRY |
| if on the determination of
indoles in a tissue, body
fluid, etc. | INDOLES /* analysis |
| "chemical determination of
indole in indoleacetic acid" | * INDOLES (/analysis)
* INDOLEACETIC ACID
CHEMISTRY |
| MODELS, CHEMICAL | A <u>theoretical</u> discussion of the
chemical nature (structure, posi-
tion, configuration, physical
properties, etc.) - known or
<u>theorized</u> . It is merely a useful
pre-coordination of CHEMISTRY +
MODELS, THEORETICAL |
| MODELS, STRUCTURAL | NEVER indexed unless the article
shows a photograph of a 2- or 3- |

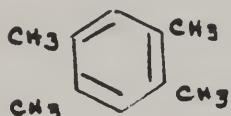
dimensional representation.
The DNA tinker-toy chandelier
in the catalog area is MODELS,
STRUCTURAL, NOT MODELS, THEOR-
ETICAL.

CHEMISTRY, ANALYTICAL

This = *analysis. It is a specialty heading and should be used for such articles as "The cost of analytical chemistry equipment" or "How much analytical chemistry does a medical student need to know?"

CHEMISTRY, ORGANIC
CHEMISTRY, CLINICAL
BIOCHEMISTRY

These are also specialty headings like CHEMISTRY, ANALYTICAL above and are not meant to be IM or NIM coordinates.



This is the NIM coordinate CHEMISTRY. It is NOT MODELS, CHEMICAL and NOT MODELS, STRUCTURAL.

ENZYMES

Exercise

Using the TECHNICAL NOTES SUPPLEMENT: ENZYME KEY,
index the following enzymes:

1. barbiturase
2. pyridoxine dehydrogenase
3. methionine racemase
4. arginine kinase
5. hypoxanthine oxidase
6. aminobutyraldehyde dehydrogenase
7. penicillinase

CATEGORY E

- o Category E contains the various diagnostic, therapeutic, surgical, anesthesia, dental and miscellaneous determinative and methodological procedures.
- o They usually figure as NIM coordinates and, whether routine or not, should be picked up in indexing only when substantively discussed by the author. The mere mention of a technic in explaining "materials and methods" should not be indexed; the technic will appear on the data form only if the author discusses it and its application to his study.
- o Subheadings in this category should be used with thought and discretion.

TECHNICS: PRINT or NON-PRINT?

In MEDLARS indexers routinely index technics discussed by the author in performing his studies. A technic discussed is accounted for by an indexer but the problem remains as to whether he will print the technic in INDEX MEDICUS or merely store the technic in the computer. The presentation below should help to clarify policy in this area.

△ Epilepsy: review and case report

In this hypothetical article, the EEG is merely one aspect of many facets described by the author: etiology, clinical manifestations, diagnosis, physiopathology, etc.
Index:

EPILEPSY (IM)
ELECTROENCEPHALOGRAPHY (NIM)

△ Epilepsy diagnosis

In this hypothetical article the author discusses several ways of diagnosing epilepsy, of which EEG was one. Index:

EPILEPSY / diagnosis (IM)
ELECTROENCEPHALOGRAPHY (NIM)

△ EEG in epilepsy

In this hypothetical article, the aim of the author was the taking of the EEG and his presenting a discussion of EEG readings. Although EEG is fairly routine in epilepsy diagnosis, the POINT of the article was the EEG. Index:

EPILEPSY (IM)
ELECTROENCEPHALOGRAPHY (IM)

- ECTOMY

- o = partial or total excision
- o do not confuse with -tomy (= name of organ / surgery)
- o -ECTOMY headings in E4
- o -ectomy, in addition to its meaning as a surgical (therapeutic or technical) procedure, appears in many titles with reference to its use in the study of the physiological function of the organ
- o indexing policy effective 1 February 1976:

If an -ectomy or similar term (e.g., CASTRATION) appears in the title and the article is on this, index under the -ectomy term. Do not concern yourself with whether it is a therapeutic procedure or merely a research tool.

If the article discusses also the physiology of the organ excised as a control, index also under the name of the organ with the subheading /physiology. Whether it is IM or NIM will depend on the point of the article or the amount of text on the organ physiology.

The effect of adrenalectomy
on blood lipids

* ADRENALECTOMY
LIPIDS / * blood

- o INDEXING MANUAL references 14.5, 14.5.1, 14.5.2 and 22.8 will be re-written to reflect this new policy

CATEGORY F

- o This is the psychological and psychiatric category.
- o F1 = Normal behavioral processes & personality
F2 = Normal mental (thinking) processes
F3 = Deviations from the normal behavioral, personality & mental processes, therefore
MENTAL DISORDERS
F4 = Psychological and psychiatric diagnostic & therapeutic technics & services
- o Subheadings assigned to this category have to be divided into those which go with F1 & F2, those with only F3 (corresponding largely to the subheadings assigned to Category C) and those with only F4. If you are in doubt about a specific subheading with a specific main heading, consult the Annotated MeSH.

CATEGORY G

- Category G is the tree devoted predominantly to the physiological processes of living things.
- The first three trees, however, are devoted to the listing of the biological sciences in general, the health occupations and environmental health.
- Subheadings here are motley in that some may be used only with G1, G2 and G3 and two - /drug effects and /radiation effects which are the only ones available to G4 through G12 (with, in turn, an exception or two). Consult the Annotated MeSH for specific subheadings with specific main headings in this category.

IMMUNOLOGY

IMMUNOLOGY - the field or specialty or immunologist

IMMUNITY - the immune process of the body

IMMUNIZATION - the rendering of the body resistant to attack

/immunology - always coordinated with an immunological heading

D24-largest source of immunological headings

E1 - SERODIAGNOSIS, the source of much-used technics

SEROLOGY - involved only the in vitro antigen-antibody technics by strictest definition

in MEDLARS as specialty and the serologist only

SERODIAGNOSIS - like SEROLOGY, little used since MeSH provides better specifics

BLOOD PROTEINS - definition and use

ALBUMINS vs SERUM ALBUMIN; GLOBULINS vs SERUM GLOBULINS

Autoimmunity and AUTOIMMUNE DISEASES

CATEGORY H

- o This category contains headings in the physical sciences. There is a two-fold emphasis: there are many terms for principles in physics and many determinative technics which are also in Category E already or should be.
- o In using Category H, keep constantly in mind also Category E for either duplications or lacunae.
- o A limited number of subheadings is available to this category but some can be used only with man-made concepts (e.g., /instrumentation or /methods with MINIATURIZATION) and some cannot be used with God-created concepts (e.g., you cannot say ADHESIVENESS / instrumentation). Check the Annotated MeSH for specific permissions and prohibitions.

CATEGORY I

- o Category I contains terms relating to man as a social being and his relation to society.
- o This category is divided into concepts in sociology and the social sciences; in education; in activities predominantly human.
- o Most terms here are IM.
- o Use the subheadings available reflectively or check for specific uses with specific headings in the Annotated MeSH.

CATEGORY J

- o This is the category of technology and industry.
- o Because food technology is in this category, many terms for FOOD are here too. In this area, be sure to consider food-plant terms also in B6.
- o Again the array of subheadings is motley and individual ones make strange mates for specific headings. Be sure to check the Annotated MeSH for specific permissions and restrictions.

CATEGORY K

- o These are largely Catalog Section terms used in the cataloging of books, rather than the indexing of articles.
- o Only three subheadings are available: /classification, /education and /history. Check the Annotated MeSH for individual uses.
- o Most terms here will tend to be IM.
- o Of special interest are the following areas:
 - HISTORY OF MEDICINE terms
 - MEDICINE IN ... terms
 - LITERATURE terms
 - RELIGION terms

CATEGORY L

- o Even more than Category K, Category L is the province of catalogers. These terms are not among the frequently used headings in MeSH in the literature the indexers see.
- o Most terms here tend to be IM.
- o Be discreet in the use of the available sub-headings and always check the Annotated MeSH for specific uses with specific terms here.
- o Of special interest are the following areas:
 - BIBLIOGRAPHY as IM to help reference staff
 - COMMUNICATION
 - COMPUTERS
 - FEEDBACK as a physiological concept (G7)
and as a psychological concept (F2)
 - DICTIONARIES and NOMENCLATURE as IM to
help reference staff
 - HANDWRITING vs WRITING
 - LANGUAGE vs LINGUISTICS vs SEMANTICS vs
SPEECH

Category M

- o Category M contains people as people or names of groups of people.
- o It is necessary to discuss them in terms of Check Tags for people, and hence as IM vs NIM.
- o Except for the people check tags, the terms here tend to be IM.
- o Only three subheadings are available: /classification, /education and /history. /history can be used only with

ESKIMOS
INDIANS, NORTH AMERICAN
INDIANS, SOUTH AMERICAN
JEWS
MISSIONS AND MISSIONARIES
BLACKS (formerly NEGROES)

- o Check the Annotated MeSH for use of specific sub-headings with specific terms herein.
- o Of special interest are the following areas:
 - PATIENTS
 - FAMOUS PERSONS
 - TWINS, TRIPLETS, QUADRUPLETS & QUINTUPLETS vs PREGNANCY, MULTIPLE & LITTER SIZE

Category N

- o Category N was designed to service the literature of the expanding field of health care in our country: socially, economically, and spiritually. In designing it the health care people had in mind this cohesive grouping of headings in this subcategorization:
 - N1 - what kind of people use medical care?
 - N2 - what are the services and who gives them?
 - N3 - how is society involved? economics, insurance, planning, controls, &
 - N4 - administration, organization and activities in providing medical care
- o Note available subheadings with this category but remember these three commonly applicable Category N sub-headings:
 - / manpower - who is available? or what type of person is available?
 - / supply & distribution - how many of these people are there and where are they?
 - / utilization - how are they used? where are they used? who uses them? how often are they used?

INDEXING DEMONSTRATION

- I. Definition of indexing: the use of MeSH headings to describe fully and accurately the content of an article within the rules of coordination and depth laid down under MEDLARS
- II. Refer to the MEDLARS INDEXING MANUAL 2.3 for the READ/SCAN method of indexing

III. Procedure

1. Read and mark the title as required
2. Understand the title
3. Read the first or more paragraphs word for word down to the point where the author states, "THE PURPOSE OF THIS STUDY IS TO . . ."
4. Do NOT index material in this introductory matter unless it is further discussed in the article and will therefore be picked up as indexable
5. Scan paragraph by paragraph, noting boldface headings, italicized headings, section headings
6. Assign headings paragraph by paragraph in the order of the discussions in the text: do not jump around
7. Index only subjects and aspects of subject discussed, not merely mentioned
8. Read every word of the summary or conclusion but it is likely that subjects here have already been covered in Procedure 6 and 7 above
9. Paragraphs indicated as "Discussion" by the author are indexable if the subjects herein are substantive and not merely speculations
10. Note bibliographic references for clues
11. Note the author's keywords if given
12. Note the presence of an abstract but index items referred to in the abstract only if they are actually discussed in the article and would have been picked up anyway in the indexing process

13. Look at the headings you have assigned:
do the IM terms represent the point of
the article? are the proper coordinates
covered? are the elements of the title
- usually a faithful herald of the con-
tent of the article - covered as IM?
are the NIM items actually discussed or
merely mentioned?
14. Correct any typographical errors

II. Indexing demonstration

1. The lecturer will index an article "aloud"
for you, following the above routine step
by step.
2. The lecturer will answer your questions.
3. The lecturer will assign an article to be in-
dexed by the class, without his help.
4. The lecturer will go over this article with
you, showing the correct terms, explaining
policy governing them and answering your
questions.
5. The lecturer will repeat 3 and 4 for two more
articles.

III. Two-tier indexing (see page

NOTE: Please read TECHNICAL NOTE 206, paragraph C
for a discussion of the sequence of indexing.

INDEXING PHILOSOPHY

The rules governing indexing policy are numerous and intricate and highly detailed. The basic indexing philosophy, however, is as neat and simple as the rules are myriad.

- An Indexer is only an indexer: he is not a physician, not a research scientist, not an author; an Indexer reports: he does not evaluate, he does not diagnose, he does not perform operations.
- An Indexer who does not understand the point of an article within 10 minutes will not index it any better after 30 or 40 minutes.
- An Indexer will learn as much about antigens for indexing purposes by indexing 40 articles on antigens as by spending 15 hours of indexing time reading about antigens.
- The article in hand is the world's best authority on that article. An accurate Indexer is the world's second best authority.
- An Indexer will provide, in general, for every clinical article to be indexed an organ, a disease affecting that organ, a cause of the disease and a treatment for it.
- An Indexer will always provide, if possible, the technic mentioned in the article whereby the subject was studied or the research or therapy was performed.
- An Indexer will always distinguish between an -ology and an organ or disease: the -ology is always the physician; the organ or disease is always the patient. They are never confused.
- An Indexer will describe the concepts or contents of an article faithfully and only within the confines of MeSH.
- An Indexer will always index toward the most specific heading possible: an article on the lung is indexed as LUNG and not as RESPIRATORY TRACT.

Each of the titles below was either taken from published issues of INDEX MEDICUS or contrived to generate discussion in class on indexing policy.

Index each of the titles on the practice title exercises on a separate Data Form. Assume that the title truly reflects the content of the article and that the article appeared in a Depth Journal. Use as many main headings and subheadings as you feel are needed and be careful to indicate the required Check Tags, Geographic Headings, Provisionals, etc.

1. Urinary pyridoxine and urinary sodium in infantile myoclonic seizures.
2. Peptic ulcer causing agranulocytosis
3. Cerebellar biopsy in periarteritis nodosa
4. Histochemistry of experimental cerebral edema in rats
5. EEG discharges in acute cerebral arteriosclerosis
6. Electron microscopic observations on normal human pancreatic arteries
7. ACTH-induced psychoses in the light of daily 17-hydroxycorticosteroid excretion under high ACTH dosage
8. The effect of illumination and d-amphetamine on the activity of rhesus monkeys
9. Learning and set formation by normal and previously irradiated female rats
10. Chromatographic studies on tryptophan metabolism (via kynurenine) in schizophrenic patients hospitalized in Sweden
11. Urinary excretion of adrenaline, noradrenaline and other catecholamines in mental illness
12. Indications for subtotal and total hysterectomy at the Rotunda Hospital in Dublin
13. Blood serotonin in pregnancy
14. Blood serotonin in pregnancy complications
15. Plasma serotonin in measles in pregnancy
16. Serum serotonin in normal and pathologic pregnancies
17. Effect of hydrocortisone on plasma enzymes in the rat
18. Effect of hydrocortisone on erythrocyte enzymes in the rat
19. The diagnosis of gout
20. X-ray diagnosis of gout
21. The differential diagnosis of gout

22. Gout simulating osteoarthritis
23. Osteoarthritis simulating gout
24. Hyperthyroidism, thyroid adenoma and other thyroid diseases
25. Thyroid abnormalities
26. Agenesis of the thyroid
27. Eye manifestations in arthritis
28. Conjunctivitis in arthritis
29. Eye diseases in arthritis
30. Streptococcal conjunctivitis in arthritis
31. Measles causing blindness
32. Chlorpromazine causing agranulocytosis in children
33. Serum serotonin in normal and complicated pregnancy in hypophysectomized dogs
34. Cardiac metabolism of copper in myocardial infarct; its correlation with myocardial function. Comparative study of young adults and middle-aged persons
35. Effect of three types of feedback on concept formation in chronic schizophrenics

PRACTICE TITLES

Exercise II

1. Drive, reinforcement and personality
2. Sex differences in attitudes toward leaders' display of authoritarian behavior
3. An approach to measuring psychological tensions by means of dream associations
4. A case of hydatid cyst of the lung and pancreas in a 2-year-old child
5. Neurochemical correlates of behavior. III. Nor-epinephrine and dopamine in four parts of the brain of the pigeon during periods of atypical behavior following injection of 5-hydroxy-tryptophan
6. An unusual case of *Filaria oculi humani* infection associated with *Sporozoa* infection
7. Synthesis of an unidentified antibiotic substance by a streptomycete (*Streptomyces africanus*)
8. Duodeno-pancreatic injuries in children following blunt and penetrating trauma
9. Standardization of phonocardiographic terminology
10. Directory of the Ophthalmological Society of Australia
11. The influence of emotional factors on adrenal cortex function
12. HC1 secretion and intestinal peristalsis after partial resection of the stomach in bleeding ulcer of the fundus in middle-aged personnel managers
13. Sex chromatin in Turner's syndrome
14. Amantadine therapy of influenza A and other respiratory viral diseases in Finnish soldiers
15. Free amino acids on human fingers: the problem of contamination in chromatography
16. Properties of ribonucleic acid isolated from alfalfa mosaic virus
17. Comparative response of the guinea pig and rabbit myocardium to isonicotinic acid hydrazide
18. Electron microscopy of cortisone-producing cells in the rat adrenal; radiocarbon studies
19. Historical note on a 19th century case report of pancreatic cystic fibrosis
20. Radiorenography in nephritis

PRACTICE TITLES

Exercise III

1. Sclerosis of the lungs, bile ducts and adrenal medulla
2. Changes in liver function and morphology in chronic recurrent pancreatitis
3. Changes in phosphorus compounds in the rat dia-phragm; study based on P32-labelled phosphates
4. The suicide of Marilyn Monroe: a reconstructed psychodynamic study
5. Drinking and smoking habits of New York Jews, Negroes and Puerto Ricans; an epidemiological and psychological comparison
6. Follow-up study of a case of therapy with thyroid antagonists in heart disease in a 3-year-old boy
7. Who is there to be the dermatologist of the Lunar Age?
8. How can nursing care be measured in hospitals for chronic disease?
9. The physiology of auditory perception
10. Thin-layer chromatography of bile acids
11. Party-switching and authoritarianism in the 1976 elections
12. Pancreas morphology in pancreatic disease
13. Studies on the perfused rat liver. VIII. The effect of glucagon and insulin on glucose metabolism and gluconeogenesis in the liver in the presence of bicarbonates
14. Biopsy of the gastric mucosa in postoperative gastritis caused by methyl alcohol intoxication
15. Effect of excision of the adrenal medulla on fracture healing in rats; a follow-up study

MEDLARS TRAINING PROGRAM
INDEXING TRAINING SYLLABUS

Answers to Exercises

INDEX MEDICUS Ex. II (page 17)

1. Subject Section and Author Section
2. One "et al."
3. Maximum of three "et al."
4. Only on the lower-case letters of authors' names or on foreign words spelled in English with an accent
5. Yes, for those languages for which MEDLARS cannot provide a vernacular typography
6. Until 1976 there were no cross-references in the monthly INDEX MEDICUS, only in the CUMULATED INDEX MEDICUS. Beginning in 1976, cross-references are supplied in the monthly issue as well as the cumulated.
7. Yes, given a citation with authors A, B and C, there are cross-references reading B see A and C see A.
8. By subheading, then by journal title abbreviation within the subheading - with English articles first, followed by foreign articles in the alphabetical order of the language symbol.
9. Three: 1) under the author, 2) under the biographee, 3) under the subject: here, under Fairchild and (Freud) in the author section and under COCAINE in the subject section.
10. Yes: whether there is an author or not an article on a specific subject appears under that subject in the subject section. In the author section, foreign-language titles without authors are gathered together under ANONYMOUS at the end of the author section.

INDEX MEDICUS Ex. III (page 18)

1. HISTAMINE LIBERATION
2. FINGERSUCKING or GINGIVA
3. HIP DISLOCATION and HIP, DISLOCATION, CONGENITAL
4. BRAIN or BRAIN CHEMISTRY, or LIPIDS (but not FATS)
5. INFECTION or BURNS & other burns terms
6. CACAO or CORONARY DISEASE
7. BACTERIAL INFECTIONS (but not CHILD or PEDIATRICS)
8. BACILLUS MEGATERIUM (note spelling:-TER, not -THER) but not CHEMISTRY
9. BRAIN or KURU (but not BRAIN DISEASES)
10. BLOOD COAGULATION or PREGNANCY (but not PREGNANCY COMPLICATIONS, HEMATOLOGIC)

MeSH Ex. I (page 27)

1. ONCOGENIC VIRUSES
2. MUSCULAR DISEASES (note that AMYOTONIA is not AMYOTONIA CONGENITA)
3. PESTICIDES
4. PARASYMPATHOMIMETICS
5. LYMPHOID TISSUE
6. EYE but discuss the specifics from the standpoint of the subject field of the journal: dermatological? ophthalmological?
7. BLOOD CELLS
8. SILICOSIS in either C8 or C21
9. GRAIN whether in B6 or J; consider definition of CEREALS
10. ANESTHESIA, CONDUCTION

MeSH Ex. II (page 28)

1. RADIOISOTOPE RENOGRAPHY or KIDNEY + RADIOISOTOPE SCANNING
2. SUBVALVULAR STENOSIS, IDIOPATHIC HYPERTROPHIC
3. LICHEN or SKIN DISEASES or LICHEN PLANUS (see Dorland)
4. SWEAT GLAND DISEASES. The purpose here is to alert the indexer to frequent misspellings & interchangeable (but wrong) use of dis- & dys- and hidr- & hydr-
5. DISABLED or HANDICAPPED
6. SPREADING CORTICAL DEPRESSION
7. NEOPLASMS and probably MASS SCREENING; probably better is MASS CHEST X-RAY since this would disclose lung cancer
8. MICROFILARIA DIURNA + FILARIASIS for 1976; MICROFILARIA DIRUNA + LOAIASIS for 1977 (MeSH annotation will be changed)

9. LOBOTOMY (but not also FRONTAL LOBE)
10. PNEUMONECTOMY
11. HEART VENTRICLE + HEART NEOPLASMS or CEREBRAL VENTRICLE NEOPLASMS
12. BACTERIA (but not also CELL SURVIVAL or SURVIVAL)
13. RETINAL PIGMENTS
14. Any of the reinforcement headings is acceptable since no information is given in the exercise
15. JURISPRUDENCE, which is equal to "medical" jurisprudence in our medical bibliographies
16. HIGHER NERVOUS ACTIVITY
17. DOGS + BITES AND STINGS
18. There is nothing in the system to cover this at present. It must be approached from other aspects of the article (e.g., ACCIDENTS, TRAFFIC? TRANSPORTATION? EXERCISE THERAPY? SPORTS?)
19. LETHAL MIDLINE GRANULOMA
20. BACTERIA (but not also CULTURE)
21. LEG INJURIES + FRACTURES
22. DIET, SALT-FREE
23. FOOD; COOKERY or HEAT if applicable to the article
24. VEGETABLES (not FRUIT) as food, PLANTS as experimental tissue
25. BRAIN EDEMA
26. LIPID MOBILIZATION
27. CHOCOLATE + CANDY
28. DIPLOPIA
29. CRANIAL FOSSA, POSTERIOR
30. SYMPATHETIC NERVOUS SYSTEM
31. There is nothing in the system to cover this at present. It must be approached from other aspects of the article (e.g., TOILET FACILITIES? NURSING CARE? HOSPITAL EQUIPMENT AND SUPPLIES?)
32. AMEBIASIS, HEPATIC (note that this is a synonym for LIVER ABSCESS, AMEBIC)
33. AS IF PERSONALITY
34. HEPATIC CIRRHOSIS
35. WORK OF BREATHING

MeSH Ex. III (page 29)

1. PSEUDOMONADACEAE or PSEUDOMONAS + WATER MICROBIOLOGY (or other appropriate water terms)
2. STRONTIUM RADIOISOTOPES + RADIOACTIVE FALLOUT
3. BODY TEMPERATURE + RECTUM
4. SALIVA + SUGARS

5. ANATOMY + PATHOLOGY; since these terms are used only as specialty terms, it is not necessary to supply also either of the two specialty terms in MeSH.
6. WOUNDS AND INJURIES + ACCIDENTS, TRAFFIC
7. FRACTURES + BOXING + ATHLETIC INJURIES (to cover "baseball")
8. MENINGITIS + STAPH INFECTIONS + STREPTOCOCCAL INFECTIONS
9. DUODENAL OBSTRUCTION + APPENDECTOMY + POSTOPERATIVE COMPLICATIONS
10. MITRAL VALVE STENOSIS

ANNOTATED MeSH (page 30)

1. GEN: usually a general heading only
IM: usually IM
NIM coord: index this as an NIM coordinate helpful in search
65: the year (i.e., 1965) the term entered the system for
indexers and searchers
70(65): the term entered the system for searching in 1965 and
became available to the published INDEX MEDICUS in 1970
no qualif: no subheadings may be used with this term
SPEC: SPEC qualif: this term is usually considered a specialty
and takes with it only the specialty subheadings listed on
page XL, usually
A 11 qualif: only those subheadings given on page XL may be
used with the main heading in question
TN: refer to the specific TECHNICAL NOTE following the TN
2. 1975
3. Before 1963
4. Probably BLOOD with the subheading /physiol (see annotation
under BLOOD, but not BLOOD PHYSIOLOGY since this is NON MESH
5. THROMBOCYTES
6. One
7. No
8. None
9. Any of these: fog, hail, rain snow - all are MeSH terms
10. No subheadings are permitted with SNOW so this is indexed as
SNOW + FROSTBITE
11. In 1972 for searchers but not until 1974 for the public using
INDEX MEDICUS
12. WATER, POLLUTION, CHEMICAL
13. Yes
14. Under WASTE DISPOSAL, SOLID but it will be printed in INDEX
MEDICUS under REFUSE DISPOSAL
15. ABORTION, EUGENIC may be used for animals but not ABORTION,
LEGAL
16. CALCIUM is printed in INDEX MEDICUS but ABSORPTION should not
be .

17. Aspiration biopsy and puncture biopsy - all MeSH terms
 18. Availability equivalency, biologic availability, physiologic availability - all themselves MeSH terms
 19. WATER-ELECTROLYTE IMBALANCE
 20. No
 21. a. It doesn't matter except that FACTOR V is shorter
 b. It doesn't matter except that BRAIN ABSCESS is shorter
 c. ABSCISSIC ACID I since it should be distinguished from ABSCISSIC ACID II
 d. PLASMA VOLUME since it is shorter
 e. BIOMATERIALS since it is shorter
 f. WATTLES since it is more specific than COMBS AND WATTLES
 22. BLOOD CIRCULATION
 23. A term without a statement regarding IM is usually printed in INDEX MEDICUS (unless, of course, it is being picked up in indexing in depth and is therefore NIM). A term with a statement about IM suggests that printing it or not printing it is open to question in an indexer's mind and therefore a general suggestion is made by the annotation.
 24. Two: both as a body fluid (A12) and as a part of the blood system (A15)
 25. M. It takes the tree number of the heading to which it refers. Both the "seeker" and the "applicant" are persons and this is the tree gathering together all the personal headings.
 26. For humans, ANTHROPOMETRY is more specific; BIOMETRY is for non-human animal terms
 27. Because BIOPHYSICS is often used as a search parameter, as "the biophysics of blood circulation"
 28. No, the correct heading is WATER INTOXICATION
 29. WATER MICROBIOLOGY
 30. Probably under BLOOD CELLS or BLOOD CELL COUNT, says the note under BLOOD

DATA FORM Ex. I: Check Tags (page 42)

1. HUMAN + ANIMAL
2. HUMAN + CHILD (but not the other child tags)
3. HUMAN
4. ANIMAL + RATS + SWINE (which is typed on the data form)
5. ANIMAL but no age tag
6. ANIMAL + MICE but not INF NEW
7. HIST BIOG + 20th CENT
8. BIOG-OBIT
9. NOBEL PRIZE + MEDICINE + HIST ART + 20th CENT; if Field 15 contains specific names (3 maximum) you must check HIST BIOG + BIOG-OBIT (if brought up to current years)
10. HUMAN + COMP STUDY

11. HUMAN
12. Probably a veterinary article & therefore indexed in full as PREGN COMPL/*vet + DOG DISEASES (IM) + PREGNANCY + DOGS + ANIMAL + FEMALE
13. HIST ART + HIST BIOG + 18th CENT + possibly HUMAN
14. HIST ART + HUMAN + probably date tags + possibly HIST BIOG if specific syphilitics (a limited number) are picked up as biographees for Field 15
15. INF (but not also necessarily INF NEW unless specifically discussed) + HUMAN
16. None
17. HIST ART (not ANCIENT because HISTORY OF MEDICINE, ANCIENT will be typed in Field 21 as IM, not checked as a tag)
18. HUMAN + CASE REPT
19. HUMAN (but not CLIN RES since it is not on controlled drug therapy)
20. HUMAN + CHILD PRE
21. HIST ART + HUMAN but not 18th CENT because HISTORY OF MEDICINE, 18TH CENT would be IM to account for "the French Revolution" as IM for a picture of 18th century France
22. HUMAN and/or ANIMAL
23. None
24. IN VITRO + HUMAN and/or ANIMAL
25. ANIMAL + CASE REPT + DOGS (but in Field 21 also DOG DISEASES)

DATA FORM Ex. II: IM & NIM (page 43)

1. NIM
2. IM
3. NIM (since INFANT, NEWBORN, DISEASES is IM)
4. NIM
5. IM as a period of biological life with physiological significance; NIM is merely one age group among others
6. IM as a significant period of biological, social, psychological meaning as ADOLESCENCE
7. NIM with INFANT MORTALITY as IM
8. SCHISTOSOMIASIS (IM) + PREGN COMPL INFECT (IM) + DOGS (NIM) + PREGNANCY (NIM) + ANIMAL + FEMALE
9. if experimental: PREGNANCY, ANIMAL (IM) + PREGNANCY (NIM) + DOGS (NIM) + ANIMAL + FEMALE; if veterinary: PREGNANCY, ANIMAL (IM) + DOGS (IM) + PREGNANCY (NIM) + ANIMAL + FEMALE
10. this is a veterinary article: PREGNANCY, ECTOPIC (IM) + DOG DISEASES (IM) + PREGNANCY (NIM) + DOGS (NIM) + ANIMAL + FEMALE
11. NIM since CATTLE DISEASES is IM
12. NIM probably unless the species were particularly significant
13. NIM
14. IM if an anatomical or physiological study on rabbits; NIM if an anatomical or physiological study on motor neurons

15. IM since the article is probably an over-all picture of life in the 19th century
16. IM since most articles on ancient days are IM
17. IM if the whole article is on that
18. probably no tag unless clearly a historical article (then HIST ART + 20th CENT)
19. IM as species specific
20. NIM

COORDINATION Ex. I (page 47)

1. JEJUNUM (IM) + INTESTINAL DISEASES (NIM)
2. IRIS (IM) + UVEAL DISEASES (NIM)
3. CORNEAL DISEASES (IM) + EYE NEOPLASMS (IM)
4. COMMON BILE DUCT (IM) + BILIARY TRACT DISEASES (NIM)
5. PANCREATIC DISEASES (IM) + CALCULI (IM)
6. DOG DISEASES (IM) + NEOPLASMS (IM)
7. OSTEITIS (IM) + CERVICAL VERTEBRAE (IM) + SPINAL DISEASES (NIM)
8. GANGRENE (IM) + FOOT DISEASES (IM)
9. STOMACH DISEASES (IM) + STAPH INFECTIONS (IM)
10. same as 9
11. ANTERIOR CHAMBER (IM): i.e., ANTERIOR CHAMBER with the sub-heading /injuries and not also EYE INJURIES
12. FINGERS (IM) + whatever is in the article: fingers as bones (BONE DISEASES) or a locational on the hand (HAND DERMATOSES, for example, if a skin disease of the fingers), etc.

COORDINATION Ex. II (page 48)

1. KERATIN + CORNEA + CORNEAL DYSTROPHIES
2. LIPASE + BRAIN + BRAIN NEOPLASMS
3. ESTROGENS + OVARIAN DISEASES + PREGNANCY + FEMALE
4. LIVER + HEPATITIS + GLUCOSE + RATS + ANIMAL
5. INSULIN + LIVER GLYCOGEN + RADIATION EFFECTS + X-RAYS (NIM) + MICE + ANIMAL
6. CATALASE + LIVER + MENINGITIS + BRAIN
7. TOOTH + RACCOONS + CELLULOSE + ANIMAL; if "cellulose digestion" is viewed as the metabolic breakdown of cellulose this is CELLULOSE/metab; if the article is viewed as "the digestive process of raccoons" this is + DIGESTION
8. PANCREAS + SALMONELLA + DIABETES MELLITUS + SALMONELLA INFECTIONS + PANCREATIC DISEASES
9. MASTITIS, BOVINE (this was a trap) + STAPH INFECTIONS + CATTLE + ANIMAL + FEMALE + MARYLAND + DISEASE OUTBREAKS

SUBHEADINGS (page 62)

1. LUNG / * abnorm + HUMAN
2. SALMONELLA / * isol + COLON / * microbiol + HUMAN
3. INTESTINAL NEOPLASMS / * surg + HUMAN
4. KIDNEY / * physiol + RACCOONS / * physiol + ANIMAL
5. HAND INJURIES / * etiol + ACCIDENTS, TRAFFIC + HUMAN
6. LIVER / * physiopathol + PANCREATITIS / * physiopathol + HEPATITIS / * physiopathol + HUMAN
7. * ERYTHROCYTES (inadequate information for a subheading here) + ANEMIA / * blood + HUMAN
8. LEUKOCYTES / * enzymol + PHOSPHATASES / * blood + AGAMMAGLOBULINEMIA / * enzymol + AGAMMAGLOBULINEMIA / blood + HUMAN
9. LUNG / * anal + PNEUMONIA / * metab + HUMAN
10. IRON / * metab + LIVER / * metab + ERYTHROCYTES / * metab + IRON / blood + HEMOCHROMATOSIS / * metab + HEMOCHROMOCYTOSIS / blood + HUMAN
11. BRAIN / * pathol + MULTIPLE SCLEROSIS / * pathol
12. CELL WALL / metab + MYCOBACTERIUM TUBERCULOSIS / * metab + MYCOBACTERIUM TUBERCULOSIS / ultrastruct + TUBERCULOSIS, PULMONARY / * microbiol + HUMAN
13. CORNEA / * ultrastruct + CORNEA / pathol (optional) + EYE DISEASES / * pathol + HUMAN + MICROSCOPY, ELECTRON
14. KNEE INJURIES / * radiogr + KNEE INJURIES / * radiother (if equal amounts of text) or KNEE INJURIES / * radiogr + KNEE INJURIES / radiother (if more on x-ray than on therapy) + HUMAN
15. STAPH INFECTIONS / * vet + MASTITIS, BOVINE (/ * occur possible) + CATTLE + ANIMAL + FEMALE + MARYLAND + DISEASE OUTBREAKS / * vet
16. SALMONELLA / * isol + PANCREAS / * microbiol + DIABETES MELLITUS / * microbiol; + SALMONELLA INFECTIONS / * metab + PANCREATIC DISEASES / * metab + DIABETES MELLITUS / metab + DIABETES MELLITUS / compl + PANCREATIC DISEASES / compl + SALMONELLA INFECTIONS / compl + HUMAN
17. * NEOPLASMS + NEOPLASMS / etiol + NEOPLASMS / pathol + NEOPLASMS / ther + HUMAN
18. MYOCARDIUM / * metab + MYOCARDIUM / anal + HUMAN

SUBHEADINGS (page 63)

- | | | |
|------|-------|-------|
| 1. c | 6. a | 11. a |
| 2. a | 7. b | 12. c |
| 3. c | 8. c | 13. a |
| 4. a | 9. a | 14. b |
| 5. c | 10. c | 15. c |

- | | | |
|-------|-------|-------|
| 16. c | 21. a | 26. b |
| 17. a | 22. b | 27. c |
| 18. c | 23. c | 28. b |
| 19. c | 24. c | 29. a |
| 20. b | 25. c | |

SUBHEADINGS

- | | |
|--|--|
| 1. KIDNEY / pathol | 8. GLUCOSE / metab |
| 2. PANCREATITIS / enzymol | 9. nothing |
| 3. GASTRITIS / vet | 10. CORTISONE / physiol |
| 4. HEAT / ther use | 11. HEMOCHROMATOSIS / blood |
| 5. no evidence, probably
/ diag use | 12. MENINGITIS / csf |
| 6. RADIOLOGY / man | 13. HEPATITIS / metab or con-
ceivably / physiopathol |
| 7. PHARMACISTS / supply | 14. RACCOONS / metab |

BACTERIA (page 78)

1. M TUBERC
2. LACTOBACILLUS ACIDOPHILUS
3. STAPHYLOCOCCUS AUREUS (but MICROCOCCUS PYOGENES is an entry term)
4. SHIGELLA DYSENTERIAE
5. ERWINIA
6. XANTHOMONAS
7. NOCARDIA: here the trap is that either you must go to the 7th ed. of Bergey (since it is not in the 8th as Streptomyces or africanus in the index) or it can be found in the Annotated MeSH under STREPTOMYCSES, which says "S. africanus = NOCARDIA"
8. This is also a trap: this is not a bacterium and must be looked for in the Dictionary of the Fungi, not Bergey

VIRUSES (page 79)

1. ENCEPHALITIS VIRUSES, TICK-BORNE
2. PAPILLOMA VIRUSES
3. VERTEBRATE VIRUSES, UNCLASSIFIED
4. FELINE INFECTIOUS ENTERITIS VIRUS
5. PARAMYXOVIRUSES
6. RABIES VIRUS

7. COMMON COLD VIRUS
8. SHOPE PAPILLOMA VIRUS
9. VISNA-MAEDI VIRUSES

TUMOR KEY (page 84)

1. ARRHOENOBlastoma
2. ARRHOENOBlastoma
3. SARCOMA, OSTEOGENIC
4. CARCINOMA, TRANSITIONAL CELL
5. HEPATOMA
6. CARCINOMA
7. CARCINOMA, EPIDERMOID + CARCINOMA IN SITU
8. CARCINOMA, OAT CELL
9. ANGIOMA + LIPOMA
10. NEURILEMMOMA

11. SARCOMA, OSTEOGENIC + FEMUR HEAD + FEMORAL NEOPLASMS
12. ASTROCYTOMA + FRONTAL LOBE + BRAIN NEOPLASMS
13. CHOLANGIOMA + BILE DUCT NEOPLASMS
14. LEIOMYOMA + UTERINE NEOPLASMS
15. HEPATOMA + LIVER NEOPLASMS
16. CARCINOMA + FOREARM + organ/neopl term in the article or BONE NEOPLASMS
17. FIBROMA + LARYNGEAL NEOPLASMS
18. CARCINOMA, OAT CELL + LUNG NEOPLASMS
19. CARCINOMA if histologically proven as CARCINOMA, and not CARCINOMA, DUCTAL, + BREAST NEOPLASMS; otherwise only BREAST NEOPLASMS if "carcinoma" means merely "cancer"
20. HEAD AND NECK NEOPLASMS
21. FINGERS + SKIN NEOPLASMS or FINGERS + BONE NEOPLASMS
22. CARCINOMA if histologically proven as CARCINOMA and not merely "cancer" + TESTICULAR NEOPLASMS + DOG DISEASES + DOGS + ANIMAL + MALE

ENZYMES (page 91)

1. AMIDOHYDROLASES
2. ALCOHOL OXIDOREDUCTASES
3. AMINO ACID ISOMERASES
4. PHOSPHOTRANSFERASES, ATP
5. XANTHINE OXIDASE
6. ALDEHYDE OXIDOREDUCTASES
7. PENICILLINASE

PRACTICE TITLES (page 108)

In the interests of brevity, the headings in this portion of answers will not be written in full. Only as much of a heading will be used here as is unique or as is easily identifiable from the practice title printed. The correct form of spacing subheadings will not be followed either.

1. PYRID/*urine + SOD/*urine (or NATRIURESIS) + HYPARRHYTHMIA /*urine (or INFANTILE MUSCULAR SPASMS/*urine) + HUMAN + INF
2. PEP/*compl + AGRANULOCYT/*etiol + HUMAN
3. CEREB/*pathol + PERIART/*pathol + BIOPSY + HUMAN
4. BRAIN EDEMA/*metab + ANIMAL + RATS
5. ELECTROENCEPH (IM) + CEREB ART/*physiopathol + ACUTE DIS + HUMAN
6. PANCREAS/*blood supply + ARTERIES/ultrastruct (NIM) + MICROSCOPY, ELECT + HUMAN
7. PSYCHOSES, TOX/*etiol + ACTH/*adv eff + 17-HYDROXY/*urine + PSYCHOSES, TOX/urine + ACTH/admin + CIRCADIAN RHYTHM (if pertinent) + HUMAN
8. LIGHT (IM) (not LIGHTING, not ILLUMINATION) + DEXTRO AMPHET /*pharm + BEHAVIOR(?) (IM) or MOTOR ACTIVITY(?) (IM) + BEHAVIOR or MOTOR ACTIVITY/drug eff + ANIMAL + RHESUS MONKEYS (NIM) + MONKEYS (Check Tag)
9. "normal" as mere controls: LEARNING/*rad eff + SET (IM) + RADIATION EFFECTS (IM) + ANIMAL + FEMALE + RATS; discussion on both normal & irradiated rats: LEARNING (IM) + LEARNING/rad eff (NIM) + SET (IM) + RADIATION EFFECTS (IM) + ANIMAL + FEMALE + RATS
10. TRYPT/*metab + SCHIZO/*metab + KYNURENINE/*metab or /metab depending on the article + CHROMATOGRAPHY + HUMAN
11. depth: ADREN/*urine + NORADREN/*urine + CATECHOL/*urine + MENT DISORD/*urine + HUMAN; non-depth: CATECHOL/*urine + ADREN/urine + NORADREN/urine + MENT DISORD/*urine + HUMAN
12. HYSTERECTOMY/*methods + HUMAN + FEMALE
13. SERO/*blood + PREGNANCY (IM) + HUMAN + FEMALE
14. SERO/*blood + PREGN COMPL/*blood + PREGNANCY (NIM) + HUMAN + FEMALE
15. SERO/*blood + PREGN COMPL INFECT/*blood + MEASLES/*blood + PREGNANCY (NIM) + HUMAN + FEMALE
16. SERO/*blood + PREGNANCY (IM) + PREGN COMPL/*blood + HUMAN + FEMALE
17. HYDRO/*pharm + ENZYMES/*blood + ANIMAL + RATS
18. HYDRO/*pharm + ERYTHR/*enzymol + ANIMAL + RATS + ERYTHR/drug eff

19. GOUT/*diag + HUMAN
 20. GOUT/*radiogr + HUMAN
 21. GOUT/*diag + DIAGNOSIS, DIFFERENTIAL (NIM) + HUMAN
 22. GOUT/*diag + OSTEOARTHRITIS/*diag + DIAG, DIFF + HUMAN
 23. same as 22
24. HYPERTHYR (IM) + THYR NEOPL (IM) + ADENOMA (IM) + THYR DIS (IM)
 25. THYROID GLAND/*abnorm
 26. same as 25
 27. EYE MANIF (IM) + ARTHR (IM) - subheading to be determined by the article
 28. CONJUNCTIVITIS(IM) - subheading to be determined by the article - + ARTHRITIS (IM) - subheading from article. Likely coordination is CONJ/*etiol + ARTHR/*compl or CONJ/*compl + ARTHR/*compl + HUMAN. Consider also ARTHRITIS, INFECTIOUS, depending on the article
 29. EYE DIS (IM) + ARTHR (IM) + HUMAN, with the same possibilities regarding subheadings & infection as in 28
 30. CONJ/*etiol + STREPT INFECT (IM) (no subheading if coordinated with CONJ but it must also be considered with regard to ARTHRITIS or ARTHRITIS, INFECTIOUS) + ARTHRITIS /*compl or ARTHRITIS, INFECTIOUS/etiol or /compl or both. This exercise is open to much discussion.
 31. MEASLES/*compl + BLINDNESS/*etiol + HUMAN
 32. CHLOR/*adv eff + AGRANUL/*chem ind + HUMAN + CHILD (NIM)
 33. SERO/*blood + PREGN, ANIMAL (IM) + PREGNANCY (NIM) + PREGN COMPL/*blood + HYPOPHYS (IM) + ANIMAL + DOGS + FEMALE
 34. MYOCARD/*metab + COPP/*metab + MYO INFARCT/*metab + MYO INFARCT/physiopathol + HEART/*physiopathol + HUMAN + COMP STUDY + ADULT + MIDDLE AGE (NIM)
 35. FEEDBACK (IM) + CONCEPT FORM (IM) + SCHIZOPHRENIC PSYCHOL (IM) + SCHIZOPHRENIA (NIM) + CHRONIC DIS (NIM) - the C schizo needs to be present to coord with CHRONIC DIS (C): SCHIZO PSYCHOL (F) is not the proper coordinate - + HUMAN

PRACTICE TITLES (page 110)

1. DRIVE (IM) + REINFORCE (IM) + PERSONALITY (IM) + HUMAN
2. ATTITUDE (IM) + LEADERSHIP (IM) + AUTHOR (IM) + HUMAN + SEX FACTORS (NIM)
3. STRESS, PSYCHOL (IM) + DREAMS (IM) + ASSOC (IM) + HUMAN
4. ECHINOCOCCOSIS, PULM/*compl + ECHINOCOCCOSIS/*compl + PANCREATIC DIS/*compl + HUMAN + CHILD PRE + CASE REPT

5. NOREPI/*metab or /*anal + DOP/*metab or /*anal + BRAIN CHEM/*drug eff + BEHAV, ANIM/*drug eff + HYDROXY/*pharm + PIGEONS (NIM) + ANIMAL
6. FILARIA OCUL HUM (NIM) + FILARIASIS/*compl + SPOROZOA (IM in 1976 but NIM in 1977) + PROTOZOAN INFECT/*compl + HUMAN + CASE REPT
7. ANTIBIOT/*biosyn + NOCARDIA/*metab
8. DUOD/*inj + PANC/*inj + WOUNDS, PEN(NIM) + WOUNDS, NONPEN (NIM) + HUMAN + CHILD
9. PHONOC (IM) + NOMENCLATURE (IM) but not /stand
10. DIRECT (IM) + OPHTHALMOL +(M) + SOC, MED (IM) + AUSTRALIA
11. EMOT/*physiol + ADREN CORT/*physiol + HUMAN or ANIMAL or both
12. GASTRIC JUICE/*secret + PERIST (IM) + GASTRECTOMY + PEPTIC ULC/*surg + STOMACH ULC/*compl + STOMACH ULC/surg + PERSONNEL MANAGEMENT (IM) + HUMAN + MID AGE
13. SEX CHROMATIN (IM) + TURN SYND/*familial + HUMAN + FEMALE
14. AMANT/*ther use + INFLU/*drug ther + INFLU VIRUS TYPE A, HUM (NIM) + INFLU/microbiol + RESP TRACT INFECT/*drug ther + VIR DIS/*drug ther + MILITARY MED (IM) + HUMAN + FINLAND + probably MALE
15. AMINO ACIDS (IM): possibly /*anal) + SKIN (IM with possibly FINGERS NIM) + CHROMATOG (IM) + HUMAN
16. RNA,VIRAL (IM; possibly also NIM with /isol if the isol technic is discussed) + MOSAIC VIRUSES/*anal + ALFALFA/microb
17. HEART/*drug eff + ISONIAZID/*pharm + ANIMAL + GUINEA PIGS + RABBIT + COMP STUDY
18. ADREN CORT/*cytol + CORT/*secret or /*biosyn + ADREN CORT/ ultrastruct + ANIMAL + RATS + MICROSC, ELECT + CARBON RADIO
19. CYSTIC FIBROSIS/*hist + HUMAN + HIST ART + CASE REPT + 19th CENT
20. NEPHR/*diag + RADIOISO RENOGR (IM) or KIDNEY/radiogr(IM)

PRACTICE TITLES (page 111)

1. PULM FIBROSIS (IM) + SCLEROSIS (NIM) + BILE DUCTS (IM) + BILIARY TRACT DIS (NIM) + ADRENAL MEDULLA (IM) + ADRENAL GLAND DIS (NIM) or LUNG/*pathol + BILE DUCTS/*pathol + ADRENAL MED/*pathol + SCLEROSIS (NIM). The point of this exercise is to get the indexer to view the concepts here as either clinically a disease or histologically a sclerotic process.
2. LIVER/*physiopathol + LIVER/pathol + PANCREAT/*physiopathol + PANCREAT/pathol + HUMAN + CHRONIC DIS + RECURR
3. PHOSPHORUS/*metab + MUSCLES/*metab + DIAPH/metab + PHOSPHATES /metab + PHOSPHORUS RADIOISOTOPES (if dicussed) + ANIMAL + RATS

4. FAMOUS PERSONS (IM) + MOTION PICTURES (IM) + SUICIDE/*hist + PSYCHOLOGY (NIM) + HIST ART + HIST BIOG + HUMAN + FEMALE + CASE REPT + 20th CENT + UNITED STATES + Monroe M in Field 15
5. ALCOH DRINK (IM) + SMOKING (IM) + JEWS (IM) + BLACKS (IM) + ETHNIC GROUPS (IM) + PUERTO RICO/ethnol + NEW YORK CITY + HUMAN + COMP STUDY + PSYCHOLOGY (NIM); there remains "epidemiological study": possible EPIDEMIOLOGY (NIM) but more likely ALCOH DRINK/occur + SMOKING/occur
6. HEART DISEASES (IM): not /*drug ther since the thyroid antagonists were not given for the heart disease;+ THYR ANTAG/*ther use + HUMAN + CHILD PRE + FOLLOW-UP STUDIES + CASE REPT
7. DERMATOLOGY/*man + FUTUROLOGY (IM)
8. NURSING CARE/*stand + CHRONIC DISEASE/*nurs + HOSPITALS, SPECIAL/*stand + HUMAN
9. AUDITORY PERC/*physiol. The purpose of this is to remind indexers that /physiol is available to Cat F1 & F2.
10. BILE AC & SALTS/*anal + CHROMAT, THIN LAYER - IM or NIM depending upon the journal & the article
11. POLITICS (IM) + AUTHORITARIANISM (IM) + UNITED STATES
12. PANCREAS/*pathol + PANCREAT DIS/*pathol + HUMAN or ANIMAL or both
13. GLUCAG/*pharm + INSUL/*pharm + GLUCOSE/*metab + GLUCONEO/*drug eff + LIVER/*metab + LIVER/drug eff + BICARB/*pharm + ANIMAL + RATS + PERfusion if discussed
14. GASTR MUCOSA/*pathol + GASTRITIS/*chem ind + ALCOHOL, METHYL/*pois + POSTOP COMPL + HUMAN; POSTOP COMPL must be discussed from standpoint of IM vs NIM and from standpoint of sensible subheadings; BIOPSY is subject to question also: it is not indexed unless actually discussed
15. ADREN MEDUL/*surg + FRACTURES/*physiopathol + WOUND HEAL (IM) + ANIMAL + RATS; the subject of ADREN MEDUL/surg vs ADREN MEDUL/physiol is open to discussion depending upon the article



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